Field Data Sheets RUAA Survey

(complete for each site)

Start -1055CST end 1205 CST Site: BA01

Data Collectors & Contact Information: AM, JJ, KB	KH 01 Jul 14
Date & Time: 17 June 14 / 1055 CST	County Name:
Stream Name: Bois D' Arc KH 01 Jul 14	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): bridge @ road - one access point

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☑Bedrock ☑Rip rap ☐Concrete

JJ 01 Jul 14

on either side of bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA01

Date: 17 June 14 | Time: 1055 CST

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

KH per AM 09/21/14

Boat ramp access to water ~~w/ maintained~~ gravel ~~road~~ path

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

KH per SR 09/21/14

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA01

Date: | Time: 1055 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

one picture of fire ashes and footprints under bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA01

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	75	50	3.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA01

Date: 17June14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

color-brown
access-mod eas

canine tracks
racoon tracks
bird feces
bird

Distance	Depth (meters)
0 meters	1.3
30 meters	0.3
60 meters	0.4
90 meters	0.3
120 meters	3.5
150 meters	1.07
180 meters	1.69
210 meters	2.53
240 meters	2.08
270 meters	1.46
300 meters	1.27
Average	~~1.27~~ 1.10

KH 01 Jul 14

Pictures
1- Boat launch
ULDR-11-14

ULDR 6-9
10-Trot line

ULDR 2-5

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	18.5
Width at narrowest point of the stream within 300 meter reach	13
Width at the widest point of the stream within 300 meter reach	50

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA01

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	~~☑Other: trot line~~
☐Lying down/sleeping	

KH per JJ 01 Jul 14

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☑Other (specify): debris and trees in water			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☑Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

KH per AM 08 Jul 14

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: vegetation	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☑Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☑Fire pit/ring
☐Children's toys	☑Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☑Other:				

Comments: ~~trot~~ line drop lines

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA01

Date: Time:

KH per AM 03Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

~~raccoon tracks, canine tracks~~, birds, bird feces

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No KH per AM 03Jul14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment JJ 03Jul14	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☑moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach raccoon and canine tracks

Wild	☑None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☑slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

KH per AM, JJ, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

typical plastics, glass, cans

KH per JJ 03Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Start 1220 End 1330 Site: 3A02

Data Collectors & Contact Information: AM, JJ, KB KH 30 June 14	
Date & Time: 17 JUNE 2014	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☒ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ☒	Forest	☐	Urban	☒	Rip rap @ BRIDGE
RL ☒	Shrub dominated corridor	RL ☒	Pasture	☒	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

KH per AM 30 Jun 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): single access point KH per AM 30 Jun 14 @ BRIDGE

6. Dominant Primary Substrate

☐Cobble ☒Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete

SUCKING MUD

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

FENCED PROPERTY, STEEP BANKS, POISON IVY

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

BRIDGE @ ROAD

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

LH, RL SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME AS BEFORE

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

steep banks, mucky, deep, riprap,

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

EXCEPT FOR 60-210

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank X ON RB FOR PIC

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA02

Date: _____ Time: 1230 –

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

CULVERT, RIPRAP, HORNS
COW, PASTURE, WOODS

GREAT BLUE HERON

TRACKS UNDER BRIDGE
RACCOON, CANINE

PIG TRACKS

Distance	Depth (meters)
0 meters	0.65
30 meters	0.75
60 meters	0.65
90 meters	>1.5
120 meters	>1.5
150 meters	>1.5
180 meters	>1.3
210 meters	>1.3
240 meters	0.40
270 meters	0.35
300 meters	0.50
Average	0.95

IIII

5 TRAP?
MUDPE

6-8 ULD

ULDR 9-12

KH 30 Jun 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8.5
Width at narrowest point of the stream within 300 meter reach	5.5
Width at the widest point of the stream within 300 meter reach	17.0

10.5M@0
17M@90

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)

Comments: ICH per AM 08 Jul 14

3. Check any channel obstructions that apply (Attach photos).

@ DM

☒Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure DM
☐Barbed wire	☒Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☒None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☒Other: fish trap				

Comments:

ICH per AM 08 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No ICHper AM 00 Jul 14

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No ICHper AM 00 Jul 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds GREAT BLUE HERON	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild TRACKS	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock POOP	☑None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs TRACKS, POOP	☐None	☑slight presence	☐moderate presence	☐large presence

Comments ICHper AM, JJ, ICB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant	TREES
Small garbage in the channel	☐None	☐Rare	☑Common AT BRIDGE	☐Abundant	MATRESS SPRINGS
Bank garbage	☐None	☑Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

PLASTICS, CANS, BOTTLES, GLASS GIANT PLASTIC CANDY CANE

Field Data Sheets RUAA Survey

(complete for each site)

Site: BAO3

Data Collectors & Contact Information: SR, KH, MG	
Date & Time: 18 Jan 14, 0814 cst	County Name:
Stream Name: Bois D' Arc	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep banks, poison ivy

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Slick, steep banks, dense veg. w/ poison ivy

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

National Grassland, no fence

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BAC3

Date: 18 Jun 14 Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

Shelf see prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

see prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

see prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA03

Date: 18 June 14 | Time: 0814 cst

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	1.06

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	18.5
Width at narrowest point of the stream within 300 meter reach	2.0
Width at the widest point of the stream within 300 meter reach	~~20~~ 18

ICH 18 Jun 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

Apply to pages

# Measurements		Width (meters)	depth	
bridge 1	300m		0.9	1-4 ULDR@300
2	270m		1.48	
3	240		1.2	
4	210		0.7	
5	180		0.97	
6	150		1.3	5-8 ULDR@150
7	120		1.23	9 - hog wallow
8	90		0.50	10 - tributary
9	60		1.10	11 - raccoon tracks
10	30		0.9	
11	0		1.37	12-15 ULDR@0

stumps under bridge, in channel

TV on bank @ bridge

broken folding chair @ bridge

bird poo

poison ivy

tracks

raccoon

deer

nos

heron

beaver

swallows w/nests under bridge

foam

little fish

turtles

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BAC3

Date: 18 Jun 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: dense veg. poison ivy	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

located in Nat'l Grassland

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☑foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

tire in channel

Field Data Sheets RUAA Survey

(complete for each site)

Site: RA24

Data Collectors & Contact Information: SR, KH, MG
Date & Time: 18 Jun 24, 1100 cst County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D' Arc
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Steep banks, we repelled down

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. PP, locked gate

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BAC4

Date: 18 Jan 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA04

Date: 18 Jan 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)	
0 meters	0.55	1-4 ULDR@0
30 meters	0.55	
60 meters	0.10	
90 meters	1.0	
120 meters	0.62	
150 meters	0.25	5-8 ULDR@150
180 meters	0.20	
210 meters	0.40	
240 meters	0.20	
270 meters	0.25	9-12 ULDR@300
300 meters	0.80	
Average	0.45	7 pics of b.fly

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	10
Width at narrowest point of the stream within 300 meter reach	2.2
Width at the widest point of the stream within 300 meter reach	12

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

2 log obs. in Extra U

tracks
raccoon
hog
water bird

snakes
crawdads
bivalves
sm. fish

glass jar

hog wallow
wildlife trail @150

bird feces

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BACH

Date: 18 Jan 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): Click here to enter text.
- ☑ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Nearby school
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☐ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Trails/paths (hiking/biking)
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: Click here to enter text.
- ☑ None of the above

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑ Private property
- ☐ Wildlife
- ☑ No public access
- ☐ Fence
- ☐ Industrial
- ☑ No roads
- ☐ No trespass sign
- ☑ Steep slopes
- ☐ Other: Click here to enter text.
- ☐ Barge/ship traffic
- ☐ None of the above

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Camping Sites
- ☐ Children's toys
- ☐ RV/ATV Tracks
- ☐ Gates on corridor
- ☐ Foot paths/prints
- ☐ NPDES Discharge
- ☑ No human presence
- ☐ Fishing Tackle
- ☐ Organized event
- ☐ Dock/platform
- ☐ Remnants of kids' play
- ☐ Rope swings
- ☐ Fire pit/ring
- ☐ Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Farmland surrounding the wooded area

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

NO TRIP 2

Site: Click here to enter text. BMCS

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 18 Jun 14 1210 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Boris Dr Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Vegetation too thick; Impassable;
Abundant poison ivy.
2 photos

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA05

Date: 18 Jan 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)
Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)
Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).
Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Start 1555 CST End 1615

Site: 3A06

Data Collectors & Contact Information: AM JJ KB	
Date & Time: 17 June 14 / 1555 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL

24 per AM 28 Jul 14

☒	Forest	☐	Urban	☐	Rip rap
☐	Shrub dominated corridor	RL ☑	Pasture	☐	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep slope @ bridge @ roadway

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA06

Date: 17 June 14 Time: 1555 CST

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

KH per AM 02 Jul 14

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

bridge @ roadway poison ivy, steep banks, dense vegetation

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

single access point @ bridge

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA06

Date: 17June 14 | Time: 1555 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

debris, steep banks, poison ivy ICW per AM 02Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA06

Date: 17June14 Time: 1555 CST

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA04

Date: 17June14 | Time: 1555 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

bird dropping, raccoon tracks

pig tracks

canine tracks

attached algea

logs in water / foam

Distance	Depth (meters)
0 meters (300)	.42
30 meters	.6
60 meters	.5
90 meters	.2
120 meters	.43
150 meters	.3
180 meters	.36
210 meters	.32
240 meters	.26
270 meters	.2
300 meters (0)	.3
Average	0.35

ULDR 1-4

ULDR 5-8

ULDR 9-12

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.5
Width at narrowest point of the stream within 300 meter reach	4
Width at the widest point of the stream within 300 meter reach	15

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA06

Date: 17June14 Time: 1555

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)

Comments:

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☒ Dams
- ☐ Other (specify):
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☒ Water control structure
- ☐ None

CONCRETE WEIR

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Nearby school
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☐ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Other:
- ☑ None of the above
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Trails/paths (hiking/biking)
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private property
- ☐ Wildlife
- ☐ No public access
- ☐ Fence
- ☐ Industrial
- ☐ No roads
- ☐ No trespass sign
- ☑ Steep slopes
- ☐ Other:
- ☐ Barge/ship traffic
- ☐ None of the above

Comments:

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Camping Sites
- ☐ Children's toys
- ☐ Other:
- ☐ RV/ATV Tracks
- ☐ Gates on corridor
- ☐ Foot paths/prints
- ☐ NPDES Discharge
- ☑ No human presence
- ☐ Fishing Tackle
- ☐ Organized event
- ☐ Dock/platform
- ☐ Remnants of kids' play
- ☐ Rope swings
- ☐ Fire pit/ring

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA06

Date: 17 June 14 | Time: 1555 CST

KH per AM 03Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

~~Raccoon tracks, canine tracks~~, hog tracks, bird droppings logs in water.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

attached algae and foam

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No KH per AM 03Jul14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach hogs, raccoons

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☑slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments

KH per AM, JS, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

plastics, cans, bottles

KH per AM 03Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BA07

Data Collectors & Contact Information: Click here to enter text. ER, KH, MC	
Date & Time: Click here to enter text. 18 Jan 14 0146 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bees Creek 1340 CST KH 18 Jan 14	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

NL Forest	____ Urban	____ Rip rap	
____ Shrub dominated corridor	____ Pasture	____ Concrete	
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.	
____ Mowed/maintained corridor	____ Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Steep banks, 4 locked gates

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Shallow, see prev

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. None

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BAC7

Date: 18 Jan 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev, pp

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text. None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA07

Date: 18 Jan 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.25
30 meters	0.30
60 meters	0.80
90 meters	0.82
120 meters	0.28
150 meters	0.31
180 meters	0.15
210 meters	0.13
240 meters	0.12
270 meters	0.60
300 meters start	0.70
Average	0.41

15-18 UL DR@300
11-14 UL DR@150
7-10 UL DR@0
4-6 Heron nests, droppings
3 - skunk tracks
2 - tracks@<120
1 - critter tracks

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6
Width at narrowest point of the stream within 300 meter reach	3
Width at the widest point of the stream within 300 meter reach	8

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

bank access in L @300

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

fish snake Heron crawdads sm. fish bivalves beaver trail algae bird feces wildlife trail @0

tracks deer raccoon ~~co~~ feline possum waterbird skunk coyote

tire foam, cans bottle

Rookery @30

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BAC7

Date: 18 Jun 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos). ICH 18 Jun 14

☐Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☑Other: Click here to enter text	

Comments: Click here to enter text. 4 locked gates

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☑foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☑large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA08

Data Collectors & Contact Information: BR, KH, MG	
Date & Time: 17 Jun 14 1636 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies. 10 & 13 Nov 14

☐dry ☐no flow ☐low ☑normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap	
____ Shrub dominated corridor	RL Pasture	____ Concrete	
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.	
____ Mowed/maintained corridor	____ Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, gate, electric fence

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. None

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA08

Date: 17 Jan 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Steep ban 15

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: lack of water usually

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA08

Date: 17 Jan 14 Time: 1636 cst

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.30
30 meters	~~0.62~~ 0.62
60 meters	0.35
90 meters	1.0
120 meters	0.71
150 meters	0.25
180 meters	0.45
210 meters	0.50
240 meters	0.27
270 meters	0.65
300 meters	0.22
Average	0.48

obstruction in D of Q

obstruction @ 210

15-18-ULDR@0

14 - feces

13 - crawfish hole

9-12 snake @ <150

5-8 ULDR@150

1-4 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3
Width at narrowest point of the stream within 300 meter reach	0.5
Width at the widest point of the stream within 300 meter reach	~~8~~ 7.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

buzzards

bivalves

frogs

crawfish hole & corpse

plastic bottles

bricks

bottles-glass

tires

tracks

raccoon

beaver

bird seeder

bullfrog

feces (of crawdads)

bridpoo

hear hawks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA08

Date: 17 June 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Navigate lack of water

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Start-1450 CST End-1530 CST

Site: BA09

Data Collectors & Contact Information: JS AM KB	
Date & Time: 17 June 14 / 1450 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban	✓	Rip rap @ BRIDGE
	Shrub dominated corridor	RL ✓	Pasture	✓	Concrete
CH per AM 09 Jul 14	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Riprap and concrete at bridge entrance at roadway

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

single access point: bridge
dense ves. on banks
fence on either side of bridge
steep banks

CH per AM 09 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA09

Date: 17June14 | Time: 1450 CST

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

ICH per SR 09Jul14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA09

Date: 17June14 | Time: 1450 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Steep banks, riprap, poison ivy, mucky

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA09

Date: 17 June 14 Time: 1450 CST

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA09

Date: 17June14 | Time: 1450 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

riprap

tire
trees in water
coon tracks
tire, hog & cattle manure
glass, metal

tire
fence-RB
wooded-LB

Distance	Depth (meters)
0 meters	.5
30 meters	.35
60 meters	.21
90 meters	.4
120 meters	.45
150 meters	.2
180 meters	.3
210 meters	.35
240 meters	.2
270 meters	.2
300 meters	.25
Average	0.31

ULDR 1-4

ULDR 5-8
9-handle fishing pole

ULDR 10-13

ICH 30 Jun 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	2.5
Width at the widest point of the stream within 300 meter reach	8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA09

Date: 17JUNE14 | Time: 1450 CST

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☑Fishing Tackle	☐Remnants of kids' play	
☐Other:				

REEL ONLY

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA09

Date: 17 June 14 | Time: 1450 CST

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Tires, glass bottles, trash, metal, hog and cattle feces, branches in creek

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach raccoon and hog

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments

KH per AM, JS, KB 03/21/14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☑Abundant	tires
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant	
Bank garbage	☐None	☑Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BAD

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 18 Jan 14 ~~05~~ 1730 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text. Rois D'Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, veg, steep banks
Locked gate

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Remote location, locked gate, veg, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

N/A

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text
See above

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly NA

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See above

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.
PP. Locked gate, no road

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream 60 Downstream 60 Left Bank 60 Right Bank 60

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA10

Date: 18 Jun 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

150

60 m ULDR
90 m 0.5 depth
120 m 0.5 depth 300 m

Distance	Depth (meters)
0 meters ULDR	1.0
30 meters	1.1
60 meters	.62
90 meters	.6
120 meters	.68
150 meters ULDR	1.55
180 meters	-
210 meters	
240 meters	
270 meters	
300 meters	
Average	0.81

turtle
telephone pole

Photo wildlife trail
photo of Matt

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	10
Width at narrowest point of the stream within 300 meter reach	9
Width at the widest point of the stream within 300 meter reach	11

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tire
Plastic bottle
aluminum can

fish
Snake
crawdad holes + peices

Tag quantity of wood debris in channel

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☑Other: Click here to enter text. Dense veg, locked gate	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text. NOPE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Abundant woody debris in channel

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Extremely overgrown ves of E.TX, avg 1.5m, tallest 8ft #24

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BAH

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 17 Jan 14 0300	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D' Arc 1500 est KH 17 Jan 14	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. muddy right of way, req. 4WD, steep slopes. deep H2O

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text muddy, deep, abundant debris @ bridge, dense veg on banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text Hwy right-of-way

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

Muddy access. Steep banks. Abundant debris

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

N A

Please describe how often the activities occur? N/A

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: N/A Click here to enter text

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See above

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text N/A

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

KH 28 Jan 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Gar
Waterbird
Crawfish
Small fish

Distance	Depth (meters)	Width
0 meters		
30 meters		
60 meters	ULDR 71.5	15
90 meters	>1.5	1.5
120 meters	>1.5	17
150 meters ULDR	2.5	22
180 meters	1.62	25
210 meters	2m	25
240 meters	1.5	25
270 meters	1.5	21
300 meters ULDR	1.78	17
Average	1.5	

waterfall pic

og obstruction @ 60m
- impassable

waterfall photo

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	19
Width at narrowest point of the stream within 300 meter reach	15
Width at the widest point of the stream within 300 meter reach	25

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Garbage etc...
Life jacket
bottles
tire

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. woody debris in stream

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. gar, waterbird, minnows

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common @60	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☑foam	☐debris	☐oil

Other: Click here to enter text. @60

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

cans, cups, bottles, 1 life jacket (flood debris)

Field Data Sheets RUAA Survey

(complete for each site)

Site: BR12

Data Collectors & Contact Information: BR, KH, MG	
Date & Time: 16 Jan 14 1250 CST	County Name: Click here to enter text.
Stream Name: Boss Ranch	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R L	Forest		Urban		Rip rap
	Shrub dominated corridor	L after 20m	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): always trail down @ bridge

6. Dominant Primary Substrate

☐Cobble ☑Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. steep banks, dense veg

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA12

Date: 16 Jan 14 Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev., odor when walking in stream

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

PP, but right of way access

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Na

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA12

Date: 16 Jan 14 Time:

* only flagged zero

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters downstream	0.44
30 meters	1.00
60 meters	0.88
90 meters	0.55
120 meters	1.08
150 meters	1.46
180 meters	0.17
210 meters	0.34
240 meters	0.36
270 meters	0.36
300 meters bridge	0.30
Average	0.63

fishes in water
styrofoam cup
broken bottles
metal cans
path to river bed
dog & coon tracks @ 300
cat
obstruction in U photo @ 300
frogs, shells & bivalves
baby catfish
turtle egg shell
hog tracks
heron tracks
perch

beaver < 120 from bank hole
24 →
20 - Kingsnake
16-19 ULDR @ 0
15 - large garbage @ < 30
13-14 MG
9-12 ULDR @ 150
8 heron tracks
7 - jug top
6 - part of fishing pole
> 210
5 - birdnests @ 300
1-4 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	0.50
Width at the widest point of the stream within 300 meter reach	14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

skink

scum + foam

bird poo in stream

ss-gal drum @ < 30

tire in creek

dead crawdad

poison ivy

snake - yellow + black

yellow spotted Kingsnake

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA18

Date: 16 June 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☑Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

beaver

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

SPLIT?

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA13

Data Collectors & Contact Information: SR, KH, MG	
Date & Time: 16 Jun 14 @ 1455 cst	County Name: Click here to enter text.
Stream Name: Bois D' Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest 20m	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Steep banks, dense veg

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. steep banks, dense veg.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. pp, but no fence @ bridge crossing

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA13

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text PP, dense veg. steep banks, poison ivy

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA 13

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

skunk tracks
raccoon tracks
water bird " - heron
beaver "
crawfish burrow

Distance	Depth (meters)
0 meters ~~upst~~ downstream	0.20
30 meters	0.18
60 meters	0.01
90 meters	0.52
120 meters	0.70
150 meters	0.30
180 meters	0.02
210 meters	0.10
240 meters	0.15
270 meters	0.25
300 meters upstream	0.35
Average	0.25

13-16 ULDR@0
12 - debris pile/obstruction
11 - couch
10 - turtle tracks
1-4 ULDR@ 150
5 - beaver dam@300
6-9 ULDR@ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

KH & SR 25 Jan 14

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.8 ~~0.94~~ ~~1.0~~ 0.94
Width at narrowest point of the stream within 300 meter reach	4.0
Width at the widest point of the stream within 300 meter reach	12.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

watersnakes

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

assorted plastic

bottles, cans, couches, old electronics, tires, baling wire
cardboard, glass, bricks

poison ivy

bivalves

bird poo

scum/foam on surface

heron tracks & noise

canine tracks
turtles "

crowded clam
dead crowded

beaver dam

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

KH 16Jun14

Stream Name: | Site: ~~BAT~~ BA13

Date: 16 Jun 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Snakes

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

BS 300-20

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA 14

Data Collectors & Contact Information: SP, KH, MG	
Date & Time: 1 Jan 14 1145 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text. Pass 10 Ditch	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

Must repel down bank to access stream, 10 ft

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See rev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. PP, no fence, must wepel to access

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA14

Date: 17 Jun 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

broken glass

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA14

Date: 17 Jan 14 Time:

18+ stream access
17 - lg garbage @ bridge
14-16 beaver cutting in channel

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.30
30 meters	0.10
60 meters	0.10
90 meters	0.30
120 meters	0.34
150 meters	0.45
180 meters	0.80
210 meters	0.05
240 meters	0.15
270 meters	0.15
300 meters bridge	0.30
Average	0.28

~~9~~-~~18~~ 10 13 ULDR@0

6-~~8~~ 9 ULDR@150

5 - un ~~dead~~ sunfish
1-4 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~0.~~ 3.0
Width at narrowest point of the stream within 300 meter reach	0.5
Width at the widest point of the stream within 300 meter reach	13

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

had to repel down bank to get to water

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks
water bird
raccoon
turtle
deer

porn mag stashed in bridge

~~dead bird~~
crawfish
bivalves
algae
bird poo
frogs

moss
scum
aquatic veg

light socket
pool pump
lawn mower parts (lg.)
bottles, cans
shoe
scrap metal
~~water heater~~ propane tank
tires - numerous
lg. metal submerged
pvc pipe

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA14

Date: 17 Jan 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☑foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☑Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

ICH 17 June 14

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BAIS

Data Collectors & Contact Information: Click here to enter text. SR, LH, MG	
Date & Time: Click here to enter text. 17 Jan 14 0930 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D' Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL 70m Forest	Urban	Rip rap
Shrub dominated corridor	~~70~~ RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. steep slopes, dense bank veg, riprap

6. Dominant Primary Substrate

☑Cobble ☐Sand ☑Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☑Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Excessive rip rap in stream

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. No fence; not PP

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA15

Date: 17 June 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

Excessive rprap, steep, dense veg. banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

pp

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

rip rap, snakes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA15

Date: 17 Jan 14 Time: 0930 cst

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ~~bridge~~	~~1.0~~ 0.10
30 meters	0.38
60 meters	0.02
90 meters	0.20
120 meters	0.12
150 meters	0.20
180 meters	0.22
210 meters	0.60
240 meters	0.55
270 meters	0.55
300 meters bridge	1.0
Average	0.36

300
1-4 ULDR @ ~~300~~
5 - wildlife slide
6 - manmade obs @ <180
7-9 turtle nest/eggs @ 150
10-13 ULDR @ 150
~~14 obstruction @ <150~~
14-17 ULDR @ 0

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0
Width at narrowest point of the stream within 300 meter reach	0.5 ~~0.5~~
Width at the widest point of the stream within 300 meter reach	11.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

tracks
raccoon
beaver
hog
wildlife feces

heron
turtles
crawdads
swallows @ bridge
aquatic veg
snake
bivalves
sm. fish
frogs

turtle eggs @ 150

oil on water
man-made obstruction
algae
cowbone
beaver trail
hog wallows

couch w/ obstruction @ 300
riprap @ bridge + beyond
plastic
tires
scrap metal
bottles
obstruction of rock/moss/algae @ <150
cans
old concrete pipe @ 30

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B4S

Date: 17 Jan 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. channel obs. / > 9 ft dams

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. rip rap

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. ~~Road~~ Roadway of bridge under construction

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BA16

Data Collectors & Contact Information: Click here to enter text. BR, KH, MG	
Date & Time: Click here to enter text. 17 Jan 14 0740 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D'Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

DEPTH 0.0 @ 740

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. steep banks, dense veg. on banks

6. Dominant Primary Substrate

☑Cobble ☐Sand ☑Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☑Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text steep banks, dense veg. on banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text Access @ bridge - no fence, but PP

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text
opaque water, steep banks, dense brush veg.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. see prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.
PP

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

rip rap + submerged rebar

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ~~BA17~~ BA16 17 Jan 14

Date: 17 Jan 14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.90
30 meters	0.40
60 meters	1.04
90 meters	0.50
120 meters	0.68
150 meters	0.65
180 meters	0.60
210 meters	0.18
240 meters	0.0
270 meters	0.25
300 meters bridge	0.30
Average	0.50

1 - dumping site by bridg
2 - public access
3 - hose rope access
4-7 ULDR@300
8 - h. sidewalls
9-12 ULDR@150
13-16 ULDR@0
17 - flood debris in tree
18 - beaver slide
19 - beaver hole

Obstruction @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	11 11

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Swallows @ bridge w/ nests

glass, cans, cups, rebar, concrete

metal scrap

riprap

poison ivy

dog tracks

small fish

crawdad hole

raccoon tracks

aquatic plants

crawfish

snake

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

rope to help climb down to water

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☑Other: Click here to enter text.				

rope to slide descent to water

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. bridge used as dump site

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☑large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☑Abundant

at bridge (rip rap)

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. B417

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 16 Jan 14 1625 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text. Boggy Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☑ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. pp, locked gate

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☑Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. remoteness, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. PP, locked gate

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA17

Date: | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☑other. If other, list reasons: No public access

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). locked gate, PP

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA17

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters fenceline	0
30 meters	0.23
60 meters	0.20
90 meters	0
120 meters	0.25
150 meters	0.03
180 meters	0.10
210 meters	0.70
240 meters	0.60
270 meters 18m	0.74
300 meters upstream	~1.5+
Average	0.40

2-5 ULDR@0

6 - water veg.

7 crossings

8-11 ULDR@150

12-15 ULDR @300

1 - muskrat tracks @0

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0-18
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	18-20

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

shells snails coyote tracks turtle waterbird track

raccoon tracks snails moss fish

refrigerator BOS cow poo + tracks cattle egret

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA 17

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☑Other (specify): Click here to enter text. water sap			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☑RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Appears to be just used to cross creek

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BA 18

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 16 Jun 14 1727 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D'Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies. SR 8/Oct 14

☐dry ☐no flow ☐low ☑normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, locked gate

6. Dominant Primary Substrate

☑Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

brittle plates of shale-like stuff that is made of fine particles.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Steep, steep banks, highly vegetated banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. No

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA18

Date: 16 Jan 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.
steep banks, deer, highly vegetated banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. see prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.
PP, locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA 18

Date: 16 June 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.02
30 meters	0.38
60 meters	0.50
90 meters	0.46
120 meters	0.64
150 meters	0.05
180 meters	0.66
210 meters	0.45
240 meters	0.20
270 meters	0.10
300 meters	0.10
Average	0.32

11-13 - egg

1-4 ULDR @ 150

5 - canine tracks

6 armadillo tracks

7-10 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.015
Width at narrowest point of the stream within 300 meter reach	1.0
Width at the widest point of the stream within 300 meter reach	12.5

AR 24 Oct 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

road raccoon

scum / oil on surface

waterbird

bivalves

cow bone

fish

frogs, crawfish

-Kingfisher

heron track

turtle

snakes

canine tracks

raccoon "

armadillo tracks "

beaver

aquatic veg

line

plastic

bottle

plastic bag

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA18

Date: 16 Jan 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☐Fences
- ☐Dams
- ☐Other (specify): Click here to enter text.
- ☐Log jams
- ☐Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☑None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Other: Click here to enter text.
- ☑None of the above
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☐Wildlife
- ☑No public access
- ☐Fence
- ☐Industrial
- ☑No roads
- ☐No trespass sign
- ☑Steep slopes
- ☐Other: Click here to enter text
- ☐Barge/ship traffic
- ☐None of the above

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: Click here to enter text.

Comments: Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Scant

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BA 18

Data Collectors & Contact Information: Click here to enter text. SR, KH, MG	
Date & Time: Click here to enter text. 16 Jun 14 1727 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text. Bois D'Arc	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies. SR 8/Oct 14

☐dry ☐no flow ☐low ☑normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, locked gate

6. Dominant Primary Substrate

☑Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

brittle plates of shale-like stuff that is made of fine particles.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Steep, steep banks, highly vegetated banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. No

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA18

Date: 16 Jan 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.
steep banks, deer, highly vegetated banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. see prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.
PP, locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA 18

Date: 16 June 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.02
30 meters	0.38
60 meters	0.50
90 meters	0.46
120 meters	0.64
150 meters	0.05
180 meters	0.66
210 meters	0.45
240 meters	0.20
270 meters	0.10
300 meters	0.10
Average	0.32

11-13 - egg

1-4 ULDR @ 150

5 - canine tracks

6 armadillo tracks

7-10 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.015
Width at narrowest point of the stream within 300 meter reach	1.0
Width at the widest point of the stream within 300 meter reach	12.5

AR 24 Oct 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

road raccoon

scum / oil on surface

waterbird

bivalves

cow bone

fish

frogs, crawfish

-Kingfisher

heron track

turtle

snakes

canine tracks

raccoon "

armadillo tracks "

beaver

aquatic veg

line

plastic

bottle

plastic bag

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA18

Date: 16 Jan 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☐Fences
- ☐Dams
- ☐Other (specify): Click here to enter text.
- ☐Log jams
- ☐Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☑None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Other: Click here to enter text.
- ☑None of the above
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☐Wildlife
- ☑No public access
- ☐Fence
- ☐Industrial
- ☑No roads
- ☐No trespass sign
- ☑Steep slopes
- ☐Other: Click here to enter text
- ☐Barge/ship traffic
- ☐None of the above

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: Click here to enter text.

Comments: Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Scant

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0845 CST End: 0930 CST

Site: BA19

Data Collectors & Contact Information: AM JJ KB	
Date & Time: 17 June 14 / 0845 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban		Rip rap
	Shrub dominated corridor	RL ✓	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

14 per AM 23 Jul 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep slope @ bridge on roadway

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☑Bedrock ☐Rip rap ☐Concrete

Fence @ bridge RL per AM 23 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA19

Date: 17June14 Time: 0845 CST

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

bridge at roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 09Jul14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA19

Date: 17 June 14 | Time: 0845 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

bridge @ roadway

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

single access point: the bridge crossing KH per AM 08Jul14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

steep banks, poison ivy KH per AM 08Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA19

Date: 17 June 14 | Time: 0845 CST

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	0-~~150~~190	8.5	1
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA19

Date: 17Jun19 | Time: 0845 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

beer cans, tires, bag of trash
surface scum, brown
raccoon tracks, bedrock
poison ivy, heavy veg, steep banks
beer cans, tires, bag of trash
tire, trash
ATV tracks 180-210
oily

Distance	Depth (meters)	
0 meters	0.35	ULDR - 5-8
30 meters	1	
60 meters	.65	
90 meters	.65	
120 meters	.60	
150 meters	.45	ULDR - 1-4
180 meters	0.29	
210 meters	0.05	ATV - 14
240 meters	0.03	Obstruction 1-9
270 meters	0.60	
300 meters	0.34	ULDR - 10-13
Average	0.46	

KH 30Jun19

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	~~0.4~~ 0.35
Width at the widest point of the stream within 300 meter reach	8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

#Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA19

Date: 17June14 Time: 0845 CST

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☑RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: picture 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA19

Date: 17June14 | Time: 0845 CST

KH per AM 03Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Beer cans, trash, tires, ~~raccoon tracks~~, poison ivy, heavy vegetation

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

poison ivy, ATV tracks @ 180 to 210

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☑other bedrock
Water Surface	☐clear	☑scum	☐foam	☐debris	☑oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach snake-raccoon tracks

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

KH per AM, JS, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

tires, bags of trash, beer cans

Field Data Sheets RUAA Survey

(complete for each site)

ST 730CST ET 830CST Site: ~~BA07~~ BA20

Data Collectors & Contact Information: JJ KB AM	
Date & Time: 17JUNE20 14	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban	✓	Rip rap
	Shrub dominated corridor	RL ✓	Pasture	✓	Concrete BRIDGE
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

KH per AM 03Jul14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep slope at bridge on roadway

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

SUCKING MUD

moderate @ BRIDGE

Fence @ bridge

KH per AM 03Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA20

Date: 17June14 Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

steep bridge access w/ fence

Klt per AW 03Jul14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

Klt per SR 03Jul14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA20

Date: 17June14 Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

debris, mucky, steep, poison ivy

KHperAM
08Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA20

Date: 17 June 14 | Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	90+	6.5	.72
Pool 2	60+	4	.50
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA20

Date: 17 June 14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Scumy, oily, fence LB
raccoon tracks, hogs
tires, glass bottles, poison.
tracks hog
vi. of hogs, coon tracks
rip rap
trash on bank
glass, metal
bird feces

Distance	Depth (meters)	
0 meters	0.72	ULDR-5-8
30 meters	0.50	
60 meters	0.60	
90 meters	0.09	
120 meters	0.3	
150 meters	0.15	ULDR 1-4
180 meters	0.28	
210 meters	0.25	
240 meters	0	
270 meters	0	
300 meters	0.15	ULDR 9-12
Average	0.18	

ICH 17Jun14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	6.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BAZO

Date: 17June14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

KH per AM
00Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BAZO

Date: 17June14 | Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) KH per AM 09Jul14

Evidence of hogs (skull, bedding), ~~raccoon tracks~~, glass, tires, trash, metal, bird feces

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

POISON IVY

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☑oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach raccoon tracks

Wild	☑None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☑slight presence	☐moderate presence	☐large presence

KH per AM 09Jul14

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant	tires
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant	trash, bottles, glass
Bank garbage	☐None	☑Rare	☐Common	☐Abundant	trash, bottles, glass

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

START ~~1100~~ 1655 CST END 1750 CST Site: BA21 US

Data Collectors & Contact Information: AM SS KB	
Date & Time: 16 JUNE 2014	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	✓	Forest		Urban	Rip rap
		Shrub dominated corridor	RL	✓ Pasture	Concrete
		Herbaceous marsh		Row crops	Other (specify):
		Mowed/maintained corridor		Denuded/Eroded bank	

Upper AM 22 Jul 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): bridge @ road crossing

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

Fence

Upper AM 22 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA21

Date: 16 Jun 14 | Time: 1655

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

steep banks, poison ivy, debris, mucky KH per AM 09 Jul 14

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

bridge @ road FENCED

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA21

Date: 16 Jun 14 | Time: 1655

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

same as before

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

fence, single access point

KH per AM
08 Jul 14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

steep banks, mucky, debris, poison ivy

KH per AM
08 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA21

Date: 16Jun14 | Time: 1655

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	18	8.5	1
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA21

Date: 16 Jun 14 | Time: 1655

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	.6
30 meters	.29
60 meters	.65
90 meters	.6
120 meters	1
150 meters	0.25
180 meters	0.06
210 meters	0.27
240 meters	0.20
270 meters	0.45
300 meters	0.3
Average	0.43

ULDR-9-12

right split, crawfish pool

fires, canine tracks, trash

ULDR-5-8

raccoon tracks

cattle tracks

obstruction 1-5

Evidence of hog (skull) coon tracks, bird feces, steep banks, cows

ULDR 1-4

KH 30 Jun 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

turbid, brown, oily-soft bottom

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	0.4
Width at the widest point of the stream within 300 meter reach	8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA21

Date: 16Jun14 Time: 1655

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☐Fences
- ☐Dams
- ☐Other (specify):
- ☑Log jams
- ☐Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☐None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other:
- ☑None of the above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Private property
- ☐Wildlife
- ☐No public access
- ☐Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☑Steep slopes
- ☐Other:
- ☐Barge/ship traffic
- ☐None of the above

Comments:

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐Other:
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

evidence of hog (skull), tires, trash,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

1 crawfish, fish

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

POISON IVY

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☑oil
Other:					

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach — tracks canine, raccoon

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Kill per AM, JJ, KB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☑Abundant	tires
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant	
Bank garbage	☐None	☑Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

tires and trash,
- metal
- plastics
- bottles + cans

Kill per AM 03 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

START 1600 END 1650 CST Site: BAZZ @CR4300

Data Collectors & Contact Information: AM 33 KB	
Date & Time: 16 May 14	County Name:
Stream Name: Jim KH 26 Jun 14	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban	X @270	Rip rap @BRIDGE
	Shrub dominated corridor	RL ✓	Pasture	X	Concrete
KH per AM 03 Jul 14	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep entrance by bridge at crossing

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☒Concrete @BRIDGE @270m

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA22

Date: 16 Jun 14 Time: 1600

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

steep banks, debris (trash), mucky ICW per AM ed Oct 14

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

bridge @ road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

ICW per SR 09Oct14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA22

Date: 16Jun14 | Time: 1600

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

same as before

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

Single access point - bridge

JCH per AM 08 Jul 14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

debris piles, steep banks, mucky, poison ivy

JCH per AM 08 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA22

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30	6.2	0.9
Pool 2	37.5	8.5	1.2
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BAZZ

Date: _____ Time: 16:00

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

- riprap, trash, cans, Coon tracks, tires
- tires, clam shells
- tire
- bucket, bird feces
- canine tracks
- poison ivy
- trash, mattress, tires
- feces, water brown
- riprap
- turtle

steep banks R and L

Distance	Depth (meters)
0 meters	.05
30 meters	.8
60 meters	.05
90 meters	.6
120 meters	.5
150 meters	.05
180 meters	.50
210 meters	.11
240 meters	.20
270 meters	.44
300 meters	1.2
Average	0.42

ULDR-1-4

ULDR-5-8 w/ obstruction in DE

ULDR-9-12

KH 26Jun14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.1
Width at narrowest point of the stream within 300 meter reach	.8
Width at the widest point of the stream within 300 meter reach	~~0.2~~ 8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA22

Date: 16Jun14 Time: 1600

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

excessive tires, log jam

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

a few clam shells

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

poison ivy

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil
Other:	but brown				

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

KH per AM, JJ, EB 03/21/14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☑Abundant – tires
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant – trash
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

tires, 1 mattress, trash

end time - 1550

Field Data Sheets RUAA Survey

(complete for each site)

ST 1510 CST ET 1550 AM 16 Jun 14 Site: BA23

Data Collectors & Contact Information: ~~AB~~, JJ, KB	
Date & Time: 16 Jun 14 1510	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

KH pu AM 08 Jul 14

✓ RL	Forest		Urban	X	Rip rap @ BRIDGE
	Shrub dominated corridor	✓	Pasture	X	Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Bridge @ road crossing / rip rap and concrete

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☑Bedrock ☐Rip rap ☐Concrete

some @ BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

single access point @ bridge, poison ivy, mucky, fence, steep slopes ICH per AM 09 Jul 14

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

bridge @ road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

ICH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

same as before

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

pp, + see prev. KH per AM 08/21/14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

poison ivy, steep banks debris @ bridge KH per AM 08/21/14

Field Data Sheets RUAA Survey

(complete for each site)

BA23 KH 25 Jun 14 per AM

Stream Name: _____ Site: ~~BA24~~

Date: 16 Jun 14 Time: 1510

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA23

Date: 16 Jun 14 Time: 1510 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

ULDR-1-4

Distance	Depth (meters)
0 meters	.13
30 meters	.25
60 meters	.55
90 meters	.40
120 meters	.69
150 meters	.45
180 meters	.02
210 meters	.49
240 meters	.04
270 meters	.06
300 meters	.017
Average	0.28

concrete, riprap
poison ivy
tires

fence, steep bank
Randl
raccoon tracks
metal, H_2O hose

ULDR-5-8

plastic bucket on bank

tire in water
steep bank
large plastic

ULDR-9-12

KH 25 Jun 14

13- fish disposal

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	1.2
Width at the widest point of the stream within 300 meter reach	7.2

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

BA23 Kit per AM 26 Jun 14

Stream Name:

Site: BA24

Date: 16 Jun 14

Time: 1510

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA23 KH per AM 26 Jun 14 ~~BA24~~

Date: 16 Jun 14 Time: 1510

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☑None
☐Sitting ☐Other:
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☑None
☐Utility pipe ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☑None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☑Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☑Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:
Comments:

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☑No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:
Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No Kayak AM 03Jul14

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none until back-mud smell	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

plastics, glass, cans

end time 1450 cst

Field Data Sheets RUAA Survey

(complete for each site)

ST 1400 CST ET 1450 Site: BA 24

Data Collectors & Contact Information: AM, JJ, KB	
Date & Time: 16 Jun 14 1400 CST	County Name:
Stream Name: 16 Jun 14 KH 18 Jun 14	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	✓ Pasture both sides	Concrete
Herbaceous marsh	Row crops	Other (specify):
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Bridge @ road crossing

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☑Concrete at bridge

bkw fence, pp outside of stream

KH per AM 03 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Single access point (bridge), lack of sufficient water KH per AM 09 Jul 14

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

bridge @ road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

same as before

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA 24

Date: 16 Jun 14 Time: 1400 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

upstream → bridge & downstream
fence ~~UL 1 and 2~~
pasture LB 30 fence
snake in water riprap, concrete
tire riprap
cattle manure
large trash on
water dep. bird
metal on bank
clear H_2O no algae no veget. → cattle tracks
alum. cans, bottles trash, plastic, large metal trash
2B- fenced

Distance	Depth (meters)
0 meters	.05
30 meters	.25
60 meters	0
90 meters	.35
120 meters	.05
150 meters	.24
180 meters	0.1
210 meters	0.20
240 meters	0.5
270 meters	0.5
300 meters	.01
Average	0.21

ULDR - 1-4
trash
intertube 5
ULDR 6-9
ULDR - 10-13

KH 25 Jan 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.5
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ____ Downstream ____ Left Bank ____ Right Bank ____

Photo #s (150 meters) Upstream ____ Downstream ____ Left Bank ____ Right Bank ____

Photo #s (300 meters) Upstream ____ Downstream ____ Left Bank ____ Right Bank ____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

#Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: other than bridge crossing

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☑Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

2 snakes

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

no algae no aquatic vegetation, excessive metal cars, trash

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

also no IVP

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

droppings

KH per AM, KB, JJ 03 July 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☑Abundant	metal, cars
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant	
Bank garbage	☐None	☑Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

plastics, bottles, cans, tire

GPS WRONG 17,900KM away

finishing time 1350 CST

Field Data Sheets RUAA Survey

(complete for each site)

ST 1250 CST ET 1350 CST Site: BA26 DS

Data Collectors & Contact Information:	AM JS KB
Date & Time:	16 JUNE 2014 1250 CST County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

SR KH per AM 03 Jul 14

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL RL KH per AM 03 Jul 14

☑	Forest	☐	Urban	☐	Rip rap
☑	Shrub dominated corridor	☐	Pasture	RL ☑	Concrete Bridge
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Bridge at roadway fence, pp KH per AM 03 Jul 14

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☑Gravel ☑Bedrock ☐Rip rap ☑Concrete

at 300m at bridge

mod-steep banks, lots of debris, lots of vegetation

KH per AM 03 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

none

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Bridge at road.

KH per SR 09 Jul 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

None KH per AM 07Jul14

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). pp. fence KH per AM 07Jul14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No KH per AM 07Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters. no substantial pools

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA26

Date: 16 JUN 14 | Time: 1250 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

ULDR 1-4
Obstruction 1-5
OB2 2-6
ULDR 7-10
OBS in pic ULDR 14-15

Distance	Depth (meters)	
0 meters	.07	Tire, Plastic Bu., Trash Debris
30 meters	0.39	Rac. Poop, Rac. Tracks
60 meters	.05	
90 meters	0.31	
120 meters	0.15	
150 meters	0.17	Plastic bucket, glass bot.,
180 meters	.09	
210 meters	0.38	
240 meters	.04	lawn chair
270 meters	.32	algae, surface scum, clea H2O soft bottom grave mud
300 meters	.05	
Average	0.14	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.5
Width at narrowest point of the stream within 300 meter reach	~~0.3~~ 0.1
Width at the widest point of the stream within 300 meter reach	~~3.0m~~ 4.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☑Culverts at bridge	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☑None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: 1 lounge chair

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

lack of sufficient water KH per AM 07Jul14

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

No KH per AM 07Jul14

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

For TIAER Field Use Only

POISON IVY

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil
Other:		some			

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☑slight presence	☐moderate presence	☐large presence

Comments

KH per AM 07Jul14 tracks only

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare → Tire	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

small garbage – bags, plastic, bottles a few plastics

Field Data Sheets RUAA Survey

(complete for each site)

9 Aug 14 Site: BA01

Data Collectors & Contact Information: Click here to enter text. SRJS KTB	
Date & Time: 0800 - 0930	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. access @ roadway w/ steep slope. can be accessed in boat down boat ~~ramp~~ launch.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☐None ☑1-10 ☐11-20 ☐20-50 ☐greater than 50

2

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☑Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text.
steep slope @ access. steep banks. deep water.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.
public access @ roadway. access is

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☐None ☑1-10 ☐11-20 ☐20-50 ☐greater than 50

2

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☑Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Canine
water bird
raccoon
hog

Photos
#13 Trot line
#141 Trot Line

Distance		Depth (meters)
0 meters	ULDR	1.34
30 meters		1.28
60 meters	17	1.78
90 meters	22	2.10
120 meters	23	2.42
150 meters	ULDR 25	1.22
180 meters	40	3.0 / 3.2
210 meters		0.1
240 meters		0.28
270 meters		1.0m
300 meters	ULDR	0.7
Average		~~1.68~~

pool length 70m

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	18
Width at narrowest point of the stream within 300 meter reach	12 m.
Width at the widest point of the stream within 300 meter reach	40

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☑Standing	☐None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply.(Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☑Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☑Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☑Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☑Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☑Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

raccoon, dog, hog, and water bird tracks

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text

old dumped trash

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA02

Data Collectors & Contact Information: AM, KH, MG	
Date & Time: 09 Aug 14, 0659 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off bridge crossing
pp but no fence blocking
steep, slippery slopes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

LAKE COFFEE MILL (>5 miles SR 10/30/14)

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA02

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA07

Date: 09 Aug 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

US

Distance	Depth (meters) 9 Aug 14
0 meters bridge	~~0.0~~ 0.40
30 meters	0.18
60 meters	0.50
90 meters	0.30
120 meters	0.42
150 meters	0.26
180 meters	0.80
210 meters	0.52
240 meters	0.45
270 meters	0.15
300 meters	0.50
Average	0.38

DS

1-4 ULDR@0

5- hog wallow

6-9 ULDR@150

10- hog tracks

11-14 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	3.0
Width at the widest point of the stream within 300 meter reach	6.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Tracks
canine
raccoon
beaver
hog

bivalves
sm. fish
log debris
hog wallows

bikes
metal
bucket
tires
plastic bags
plastic candy cane
cans
carpet
over

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA02

Date: 09 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☑Other (specify): Click here to enter text. no debris			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.	
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above	
☐Rural area	☐Beach		☐Docks or rafts	
☐Residential	☑Bridge crossing		☐Commercial outfitter	
☐National forests	☐Commercial boating		☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school		☐Power Line Corridor	
☐Golf course	☐Paved parking lot		☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot		☐Public Property	

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other: Click here to enter text.				

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text Rural

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text See prev

Field Data Sheets RUAA Survey

(complete for each site)

Boat. lots of mud on TPS property. @ CR 409.

9 Aug 14

Site: BAQ3

Data Collectors & Contact Information: SR JS KB	
Date & Time: 0945 0945	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. access @ roadway with steep slopes

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Muddy water & bottom, old bridge debris submerged & bridge -

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. County Road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. N C

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. Steep banks, tall vegetation, very slick muddy banks

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

small fish
large fish
Raccoon tracks
Canine tracks
hog tracks
poison ivy
beaver tracks

Distance	Depth (meters)	
0 meters	0.15	ULDR - 9 -12
30 meters	0.9	
60 meters	1.95	13→width
90 meters	0.7	
120 meters	0.2	
150 meters	1.1	ULDR - 5-8
180 meters	0.6	
210 meters	.7	
240 meters	~~.45~~ .75	
270 meters	.97	
300 meters	1	ULDR - 1-4
Average	0.82	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	15
Width at narrowest point of the stream within 300 meter reach	~~13~~ 1.5
Width at the widest point of the stream within 300 meter reach	15.

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☑None of the above
☐No public access	☐ No roads	☒Other:Click here to enter text.	

DENSE VEG / POISON IVY

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)
Click here to enter text. small and large fish. Raccoon, canine, and hog tracks, poison ivy. Beaver tracks

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Fish, turtles, frogs
Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☑Yes ☐No
Caddo National Grasslands - Texas Forest Service property.

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). N A
Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☑Bird nests under bridge

Raccoon canine beaver, hog

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

9 Aug 14 Site: Click here to enter text. BA 04

Data Collectors & Contact Information: Click here to enter text. SR-JJ-KB
Date & Time: 1635 1800 County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, locked gate, dense veg, long way from public roads, steep banks

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Steep banks, deep sucking mud

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N/A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N/A

Please describe how often the activities occur? N/A

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. Same as previous

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. PPS / locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Canine
Coon
Beaver
Hog
~~Fr~~

Distance	Depth (meters)	
0 meters	ULDR	0.44
30 meters		0.56
60 meters		0.92
90 meters		0.34
120 meters		0.26
150 meters	ULDR	0.12
180 meters		0.30
210 meters		0.22
240 meters		0.78
270 meters		0.54
300 meters	ULDR	0.35
Average		0.43

Photos
#5 - beaver Trl

Hog wallows & trails
frogs, turtle
Shells/clams
crayfish

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.5
Width at narrowest point of the stream within 300 meter reach	~~3.0~~ 2.0
Width at the widest point of the stream within 300 meter reach	8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text. deep mud			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☑No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text. None

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. ~~N/A~~ None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. Clam shells. Crayfish. small fish & large fish frogs. turtle tracks

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. N/A

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

log
deer
raccoon
canine
turtle

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA06

Data Collectors & Contact Information: AM, KH, MG	
Date & Time: 09 Aug 14, 0803 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off bridge crossing
Steep/vertical slopes
sucking mud

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BACG

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA06

Date: 09 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters	0.35	1-4 ULDR @ 300
	30 meters	0.12	5 - concrete wall @ 270
	60 meters	0.24	
	90 meters	0.25	
	120 meters	0.30	6-9 ULDR @ 150
	150 meters	0.26	
	180 meters	0.32	10 - log jam @ <60
	210 meters	0.20	
	240 meters	0.20	11-14 ULDR @ 0
	270 meters	0.33	
	300 meters bridge	0.45	
DS	**Average**	0.27	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0 6
Width at narrowest point of the stream within 300 meter reach	3.0 3
Width at the widest point of the stream within 300 meter reach	8.0 8

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Sucking mud

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tracks
bird possum
canine
raccoon
deer
hog
crane
feline

bivalves
algae
crowded holes
frog
sm. fish

sm. trash can

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA06

Date: 09 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☑None
☐Sitting ☐Other: Click here to enter text
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text weir @ 270

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☑Other (specify): Click here to enter text. weir @ 270

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other: Click here to enter text
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☑Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☑Wildlife ☐Industrial ☑Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other: Click here to enter text.

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☑No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☑Other: Click here to enter text construction/bridge repair

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text

See prev

Field Data Sheets RUAA Survey

(complete for each site)

09 Aug 11 Site: BA07

Data Collectors & Contact Information: SR SJ KB	
Date & Time: 8/25/2024	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, locked gate

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text PP. locked gate, 3 internal gates Steep banks, remote

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) None

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.
Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly NA

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text. NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. ~~Same as up~~ low flow, muddy bottom, sinking mud,

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. pp, locked gate, thru pastures

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks Poop bird

coon Canine Hog feline beaver cow

black water bird clam shells, snake skin frogs, turtle

Distance	Depth (meters)
0 meters	ULDR 0.57
30 meters	.46
60 meters	.59
90 meters	0.6
120 meters	0.24
150 meters	ULDR 0.5
180 meters	0.2
210 meters	0.5
240 meters	0.1
270 meters	0.16
300 meters	ULDR 0.73
Average	0.42

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5 ~~1.5~~
Width at narrowest point of the stream within 300 meter reach	Around 1.5
Width at the widest point of the stream within 300 meter reach	12.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tire

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☑None
☐Sitting ☐Other: Click here to enter text.
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☑Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other: Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☑None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property ☑Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☑Steep slopes ☐None of the above
☑No public access ☑No roads ☐Other: Click here to enter text.
Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other: Click here to enter text.
Comments: Click here to enter text. \BAnd large canine trx, presumably large dog.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. none

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. frogs, fish, turtles

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text None

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Hog, canine, cow, raccoon, bear, feline

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

09Aug14 Site: BA08

Data Collectors & Contact Information: SR JS KB
Date & Time: 08/09/2012 County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies. 13Aug14

☐dry ☐no flow ☒low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, Locked gate, dense brush, steep banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Same as p.1.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. None

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. N A

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are ~~not observed~~, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur? N A

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to ~~A~~nter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. pipe, locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Dog
coon
beaver
Hog

Fecal

Photos

Distance	Depth (meters)	
0 meters	ULOR	~~1~~ 20.13
30 meters		0.46
60 meters		0.19
90 meters		.32
120 meters		.62
150 meters	ULOR	0.62
180 meters		0.38
210 meters		.25
240 meters		0.1
270 meters		.48
300 meters		.32
Average	ULOR	~~1~~ 2 0.35

#6 obstructio
#5 Dog trx

Small fish
Crawfish
frogs

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0m
Width at narrowest point of the stream within 300 meter reach	2.0
Width at the widest point of the stream within 300 meter reach	10m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text. dense veg.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Same as previous

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Clam shells, frogs, crawfish, small fish

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). N/A

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Dog
Bear
Coon
Hog

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings Bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Glass bottle

Field Data Sheets RUAA Survey

(complete for each site)

Site: B1409

Data Collectors & Contact Information: AM, KH, MS	
Date & Time: 08/28/19, 0910 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off bridge crossing on dirt road
RP, but no fence blocking access
descent is on loose, muddy riprap
steep banks
loss

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B-109

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

may break leg on descent

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA09

Date: 09 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters bridge	0.35	1-4 ULDR@0
	30 meters	0.38	
	60 meters	0.20	
	90 meters	0.45	
	120 meters	0.45	
	150 meters	0.10	5-8 ULDR@150
	180 meters	0.22	
	210 meters	0.30	
	240 meters	0.10	
	270 meters	0.10	9-12 ULDR@300
DS	300 meters	0.15	13 - D@300
	Average	0.25	14 - old fishing reel

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures. 15 - trees

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	3.0
Width at the widest point of the stream within 300 meter reach	6.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

bird

many large butterflies

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Deer / bird / deer

lots of mosquitos

riprap

foam

crowded huts

bivalves

frog

crawfish

snake

plastic bags

carpet

recliner

bad access/descent

metal

tires

broken glass

jars, bottles

Tracks / raccoon

nos

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B109

Date: 09 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

old fishing net found - probably flood debris

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Did not Survey

13 Aug 14

Site: BANO

Data Collectors & Contact Information: KB SR LT MG	
Date & Time: 0927	County Name:
Stream Name: - 0750	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

*No human presence ~~to~~ as far as we could access into property.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify):
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

PP, behind locked gate, .5 mile thru pastures to site. Property had been cleared of woodland prior to beginning surveys leaving ~~small~~ pits & holes when trees stood. These fill w/ water/ mud and pose hazardous to tires & getting stuck. Dense veg renders these holes invisible & travel to site hazardous. Additionally, large dump pits 20m X 15m & 10 ft deep are invisible & travel around them treacherous.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Rainfall Event 9Aug14 Station ID: KTVBONHA1

Precip: 1.45 in

2-1

Field Data Sheets RUAA Survey

(complete for each site)

10 Aug 14 Site: BA10

Data Collectors & Contact Information: SR KB MG	
Date & Time: Click here to enter text.	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

* Did not survey due to rainfall Event & inaccessibility due to muddy conditions.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

* Did not photo b/c on pp. thru locked gate & down thru pasture that is inaccessible with the amt of rain that fell 9Aug14.

1-2

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Rainfall Event: 8 Aug 14 > precip 1.45 in Thru 10 Aug 14 Station ID: KTYSONHA1

All precip fell 9 Aug 14

10 Aug 14

2-1

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BALL (Boat req'd)

Data Collectors & Contact Information: Click here to enter text. SR KB MG	
Date & Time: Click here to enter text. 0739 07-80	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

* Did not survey due to rainfall amt & inaccessibility due to muddy conditions.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

NW rec. obs @ bridge

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

* Photos taken

1 - drainage structure in bar ditch
2 - ~~ruts from~~ "
3 - water flowing down drainage structure
4 - "
5 - Ruts & water in ditch where we got a vehicle stuck during last survey.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

*non-wadeable
*Did not survey Access point too muddy from 8 Aug 14 rainfall event

13 Aug 14

2-2

Field Data Sheets RUAA Survey

(complete for each site)

Site: BAH Boat Road

Data Collectors & Contact Information: SR KD LB MG	
Date & Time: 0645 - 0710	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

* No recreation observed @ bridge

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

* photos
- Dm ULDR from bridge (4)
- upstream view from bridge L & R banks (2)
- Access point nuts & reg (2)
- water in drainage structure (1)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☐No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: (A-1)

Data Collectors & Contact Information: AMA KH MG
Date & Time: 9/13/23 0953 CST County Name:
Stream Name:
Segment No. or nearest downstream Segment No.:
Description of Site:

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☒normal ☐high ☐flooded

0.0

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor	RL	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off HWY bridge crossing
thick bank vegetation
PP but no fences

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA17

Date: 09 Aug 17 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA12

Date: 09 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
DS	0 meters	0.65	13 - less
	30 meters	1.0	9-12 ULDR@0
	60 meters	0.45	
	90 meters	1.2	
	120 meters	>1.5	
	150 meters	0.70	5-8 ULDR@150
	180 meters	0.20	
	210 meters	0.42	
	240 meters	0.30	
	270 meters	0.15	
US	300 meters bridge	>1.5	1-4 ULDR@300
	Average	0.73	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8.0
Width at narrowest point of the stream within 300 meter reach	0.0
Width at the widest point of the stream within 300 meter reach	11

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks: raccon, possum, deer, canine, bird, hog, beaver

feces: bird

nests@bridge: snake, bivalves, scum, sm. fish, oil

typical road trash: tires, plastic sheeting

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B-A12

Date: 09 Aug 17 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Town within sight of bridge

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

raccoon

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. bridge

See prev.

II

Field Data Sheets RUAA Survey

(complete for each site)

Site: B4/3

Data Collectors & Contact Information: AMP, KH, MG	
Date & Time: 09 Aug 14 1030 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
RL Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off bridge xing
rp - but no fence
used rope to get out
steep banks/vertical

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA13

Date: 09 Aug 14 Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text. None Broken glass

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA13

Date: 09 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.20
30 meters	0.08
60 meters	0.55
90 meters	0.75
120 meters	0.55
150 meters bridge	0.40
180 meters	0.01
210 meters	0.20
240 meters	0.22
270 meters	0.12
300 meters	0.04
Average	0.24

1-access
2-3 hog @ 150
4-~~7~~ UCDR @ 300
8-11 UCDR @ 0

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	0.4 0.4
Width at the widest point of the stream within 300 meter reach	8.5 8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

feces
dog or hog
raccoon

tracks
raccoon
bird
possum

little fish
bivalves
crawfish
foam turtle
bass

couch broken glass
tires
dead hog in channel
plastic bags
cans, bottles, cap's
folding chair

riprap
snake

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B413

Date: 09 Aug 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☐Bird nests

V. TC

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: BA14

Data Collectors & Contact Information: [illegible]	
Date & Time: [illegible]	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor	RL	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off HWY bridge crossing
RP but no fence
repelled in to channel

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA14

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text

See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA14

Date: 09 Aug 14 Time:

went down in trib 1st, worked back @ river channel

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)	
0 meters	0.18	
30 meters	0.28	
60 meters	0.05	
90 meters	0.15	
120 meters	0.24	
150 meters	0.48	
180 meters	0.22 ~~0.38~~	
210 meters	0.12 ~~0.58~~ ~~0.0~~	
240 meters	0.18 ~~0.12~~	
270 meters	0.30 ~~0.0~~	
300 meters bridge	0.35 ~~0.0~~	
Average	0.23	

DS

KH 09 Aug 14

US

11-14 ULDR@0

7-10 ULDR@150

6 - other track

5 - hog wallow

1-4 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	1.0
Width at the widest point of the stream within 300 meter reach	~~10~~ 15

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

fence on RB

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks

canine

raccoon

bird

hog

feline

frog

compost ball

rip rap

hay bale

tires

oil

algae

aquatic plants

~~like walking through a sticky milkshake/pudding~~

½ dog kennel in tree

~~shin~~ dea

~~tree~~

bottles, cans, cups

trib

KH 09 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA 14

Date: 09/25/14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural 2 channels - 1 is tributary

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. See prev.

II

Field Data Sheets RUAA Survey

(complete for each site)

Site: BAIS Click here to enter text.

Data Collectors & Contact Information: AM, KH, MG Click here to enter text.	
Date & Time: 09 Aug 14, 1226 cst Click here to enter text.	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☒normal ☐high ☐flooded

DEPTH 0.0 @ 0M

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh	RL	Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

Access of HWY bridge x-ing
thick bank vegetation
steep banks
pp- but no fence
rip rap

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA15

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

extensive r.p rap submerged in channel

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA15

Date: 09 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
DS	0 meters	0.0	
	30 meters	0.10	9-12 UL ND @ 0
	60 meters	0.01	
	90 meters	0.13	
	120 meters	0.01	
	150 meters	0.15	
	180 meters	0.30	5-8 UL DR @ 150
	210 meters	0.32	
	240 meters	0.60	
	270 meters	0.22	
US	300 meters bridge	0.70	1-4 UL DR @ 300
	Average	0.23	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~3~~ 5.0
Width at narrowest point of the stream within 300 meter reach	~~0.5~~ 0.0
Width at the widest point of the stream within 300 meter reach	8.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks / deer bird raccoon hog

feces / deer bird

riprap little fish cans, bottles, cups

aq. veg.

Slime

tires

fross

squirrel

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B 1 S

Date: 09 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. rip rap

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See pics

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Corn crops above

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☑oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Site: BAR6

Data Collectors & Contact Information: AM, KW, MC	
Date & Time: 09 Aug 14 1304 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

DEPTH 0.10 @ 30 M

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☒ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

NL Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	NL Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

Access off bridge x-ing
pp but no fence
thick bank veg.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA16

Date: 09 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA16

Date: 09 Aug 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
DS 0 meters	0.80
30 meters	0.80
60 meters	0.70
90 meters	0.30
120 meters	1.0
150 meters	0.65
180 meters	0.60
210 meters	0.30
240 meters	0.16
270 meters	0.40
US 300 meters bridge	0.0
Average	0.51

9-12 ULDR @ 0

5-8 ULDR @ 150

1-4 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8.0
Width at narrowest point of the stream within 300 meter reach	6.0
Width at the widest point of the stream within 300 meter reach	12.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

waterbirds (4)

tracks possum raccoon

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

bottles, cans, cups
bags of household garbage
something dead
rip rap
barbed wire
hose ← rope on bank tree
plastic bags
lantern

of veg
little fishies

bucket
tarp

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B716

Date: 29 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☑Barbed wire (not fence)	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural; crops

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☑moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text. KH 00 hug14

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

09 Aug 14 Site: BA17

Data Collectors & Contact Information: Click here to enter text. SR KB JJ	
Date & Time: Click here to enter text. 0320 0354 14 Aug 09	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑No flow ☑Flow ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban		Rip rap
LR	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. pp. locked gate.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. N A

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. N A

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See previous

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	> 300m stretch beginning @ 210 m	15	> 1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Small fish
frogs
Snake skin
raccoon tr x

ULDR 1-4

5-8

turtle
bird feathers
bird droppings

Distance		Depth (meters)
0 meters		0
30 meters		0.2
60 meters		0.4
90 meters		0.03
120 meters		0.25
150 meters	ULDR	0.1
180 meters		0.1
210 meters		.09
240 meters	Width	15m 71.5
270 meters		15m 71.5
300 meters	Width 12m	ULDR 71.5
Average		0.60

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	13m
Width at narrowest point of the stream within 300 meter reach	6m
Width at the widest point of the stream within 300 meter reach	18m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

bottle glass

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

no Jr X

☑Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☑RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. NONE

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Turtles, fish

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). NA

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

raccoon

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text

glass bottle

Field Data Sheets RUAA Survey

(complete for each site)

9 Aug 14 Site: BAR

Data Collectors & Contact Information: Click here to enter text. SR KB JJ	
Date & Time: Click here to enter text. 0625 0745 1525 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☑flow ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L	Forest		Urban		Rip rap
LR	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, locked gate, steep banks

6. Dominant Primary Substrate

☑Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text PP See previous

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation). NO

Click here to enter text

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. N A

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. PP, locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	12 m	10 m	71.5
Pool 2	20m	14m	71.5
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Photos

Distance		Depth (meters)
0 meters	ULDR	0.0
30 meters		0.40
60 meters		0.65
90 meters		0.25
120 meters		0.3
150 meters	ULDR	0.0
180 meters		~~0.3~~ 0.8
210 meters		0.4
240 meters		0.4
270 meters		~~0.5~~ .25
300 meters	ULDR	14 >1.5
Average		0.45

Hog tracks
Canine "
raccoon "

turtle shell
frogs
Bird droppings
small fish
Steep Banks
dense vegetation

#10 - obstruction

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	12.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

plastic & cans bank garbage

Surface scum

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text. Dense veg.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) N A

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

frogs, fish, turtle shell,

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). N A

Click here to enter text

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

raccoon hog

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

typical plastics & glass

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text.

Data Collectors & Contact Information: Click here to enter text.	
Date & Time: Click here to enter text.	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

___ Forest	___ Urban	___ Rip rap	
___ Shrub dominated corridor	RL Pasture	___ Concrete	
___ Herbaceous marsh	___ Row crops	Other (specify): Click here to enter text.	
___ Mowed/maintained corridor	___ Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off gravel road bridge crossing

tall, ~~steep~~ banks

vertical

ICH 08/15/14

poison ivy moss

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B.419

Date: 08 Aug 19 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 *	190	85	1
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

* copied from prev RUAA per AM

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA19

Date: 08 Aug 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

US

Distance	Depth (meters)
0 meters	0.05
30 meters	0.85
60 meters	0.75
90 meters	0.45
120 meters	0.55
150 meters bridge	0.65
180 meters	0.33
210 meters	0.02
240 meters	0.01
270 meters	0.55
300 meters	0.25
Average	0.35

DS

1-4 ULDR @ 150

5-8 ULDR @ 0

9-12 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	30
Width at narrowest point of the stream within 300 meter reach	0.5
Width at the widest point of the stream within 300 meter reach	9 8

KF 08 Aug 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B19

Date: 08 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird, hog

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text.

Data Collectors & Contact Information: Click here to enter text.
Date & Time: Click here to enter text. County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor	RL	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off gravel road bridge crossing

steep banks

pp but no fence

shallow depth

access - slide down muddy, steep bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B.120

Date: 08 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA20

Date: 08 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters	1.1	
	30 meters	0.48	
	60 meters	0.38	
	90 meters	0.50	
	120 meters	0.50	
	150 meters bridge	0.65	1-4 ULDR@150
	180 meters	0.40	5 access
	210 meters	0.28	6-9 ULDR@0
	240 meters	0.01	
	270 meters	0.01	10-13 ULDR@300
DS	300 meters	0.27	14- beaver gnaw & tracks
	Average	OH!	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0
Width at narrowest point of the stream within 300 meter reach	0.0
Width at the widest point of the stream within 300 meter reach	6.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks: coon, hog, canine, possum, bird

feces: hog

bivalve, crawdads, beaver gnaw, fence on LB, turkey feather, frog.

carpet, cans, bottles, broken glass, tires, car radio

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B120

Date: 08 Aug 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:Click here to enter text				

Comments:Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. BA 21

Data Collectors & Contact Information: Click here to enter text. AM, KH, MG	
Date & Time: Click here to enter text. 08 Aug 14 1525 est	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	RL Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

sucking mud

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off roadside @ bridge crossing
parked in ditch
barbed wire blocking road access
fence across channel on DS side @ bridge
sucking mud
logjams

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA01

Date: 08 Aug 14 | Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B401

Date: 08 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA01

Date: 08 Aug 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

DS

Distance	Depth (meters)
0 meters	0.35
30 meters	0.40
60 meters	0.10
90 meters	0.90
120 meters	0.10
150 meters	~~0.10~~ 0.35
180 meters	~~0.66~~ 0.34
210 meters	0.40
240 meters	0.40
270 meters	0.50
300 meters bridge	0.30
Average	0.38

12 - cows

11 - logjam @ 120

10 - C @ 150

6 - 9 ULDP @ 150

5 - logjam @ 270

1-4 ULDP @ 300

US

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

cows in stream

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0 0.65
Width at narrowest point of the stream within 300 meter reach	0.65
Width at the widest point of the stream within 300 meter reach	6.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Suckers mud

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

feces
hoof
bird feces

tracks
raccoon
deer
cow
dog
canine

beaver snow
crawdads
turtle

submerged logs/branches

cans, cups, bottles
plastic bags
jars
tires
remains of electronics
water hose

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B181

Date: 03 Aug 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Pasture land; rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☑debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. See prev

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. 12 Add

Data Collectors & Contact Information: Click here to enter text. AM, KH, MG	
Date & Time: Click here to enter text. 28 Aug 14, 12 48 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access @ CR bridge crossing
steep banks
Giant hogjam
submerged objects

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text

See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 *	30	6.2	0.9
Pool 2 *	37.5	8.5	1.2
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

* copied from prev. RUAA per AM

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA22

Date: 08 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters bridge	0.24	1-4 UL DR @ 0
	30 meters	0.75	
	60 meters	0.10	
	90 meters	0.45	5-8 UL DR @ 150
	120 meters	0.35	
	150 meters	0.05	9-critter hole
	180 meters	0.60	10 log jam @ >150
	210 meters	0.10	
	240 meters	0.25	
	270 meters	0.20	11-14 UL DR @ 300
DS	300 meters	1.1	
	Average	0.38	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3
Width at narrowest point of the stream within 300 meter reach	0.65 ~~0.65~~
Width at the widest point of the stream within 300 meter reach	10 5

KH 08 Aug 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Fences bird other

tracks
raccoon
bird
turtle
snake

cow on bank
submerged objects
~~bri~~

crawdad huts
bivalves
crawfish

mattress springs
bicycle tires
presswood
sink
tires
PVC pipe
hose
medal
cans, bottles, glass

car parts

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text. COWON BANK

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. A-A23

Data Collectors & Contact Information: Click here to enter text. AM, ICH, MG	
Date & Time: Click here to enter text. 08 Aug 14 12:05 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	bridge Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access off bridge crossing
steep banks
PP - but no fence blocking roadside access

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA03

Date: 08 Aug 14 Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.
See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.
See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

broken glass

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	60	3.0	0.35
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA23

Date: 08 Aug 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters bridge	0.01
30 meters	0.35
60 meters	0.45
90 meters	0.35
120 meters	0.34
150 meters	0.55
180 meters	0.45
210 meters	0.10
240 meters	0.50
270 meters	0.15
300 meters	0.30
Average	0.32

Finner tube ULDR @0 1-4

5-8 ULDR @150

9-12 ULDR @300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0
Width at narrowest point of the stream within 300 meter reach	0.5
Width at the widest point of the stream within 300 meter reach	6.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

raccoon tracks

sinking mud

fence on RB

water hose

broken glass

tires

plate

bags

wood

carpet

sm. tls. metal

car parts

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: B483

Date: 08 Aug 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. broken glass

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. None

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. See prev.

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. B/D4

Data Collectors & Contact Information: Click here to enter text. AM, KH, MG	
Date & Time: Click here to enter text. 08 Aug 14 11:11 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
RL Shrub dominated corridor KH 08 Aug 14	RL Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☑Rip rap ☐Concrete

Access off HWY bridge crossing
must park in ditch
must descent riprap overhung w/ thorns to get access (RB)
fence on LB
Some steep banks
shallow water
PP

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA04

Date: 08 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: BA24

Date: 08Aug14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters bridge	0.10	1-access
	30 meters	0.34	2-"
	60 meters	0.1	3-6 ULDR@0
	90 meters	0.50	7-obs/fence @30
	120 meters	0.01	8-11 ULDR@150
	150 meters	0.55	12-metal dump
	180 meters	0.15	13-16 ULDR@300
	210 meters	0.24	L see car/vehicle
	240 meters	0.50	
	270 meters	0.42	
DS	300 meters	0.01	
	Average	0.27	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2
Width at narrowest point of the stream within 300 meter reach	0.30
Width at the widest point of the stream within 300 meter reach	7.5

game/cattle trail along most of reach

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

tracks
cow
raccoon

feces
cow
bird

fence across channel
fence on Rb

water heater
tires
fencing
riprap
lg metal
vehicle undercarridge
bone - cow rib bone
typical road trash

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BA24

Date: 08 Aug 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. br: dse

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☑Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None additional

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. None

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. residence within 300m of stream

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

trip 2

Field Data Sheets RUAA Survey

(complete for each site)

Site: RA306

Data Collectors & Contact Information: AM, KH, MG	
Date & Time: 08 Aug 17 1018 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the ~~following~~ channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

0.0

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap	
RL Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Access of CR bridge crossing must park in ditch PP, but no fence sucking mud logjams lack of water (sufficient)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: BAJ6

Date: 08 Aug 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: B426

Date: 08 Aug 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

US bridge

Distance	Depth (meters)
0 meters	0.38
30 meters	0.10
60 meters	0.10
90 meters	0.20
120 meters	>0.10
150 meters	0.0
180 meters	0.0
210 meters	0.40
240 meters	0.01
270 meters	0.28
300 meters	0.0
Average	0.13

DS

1-4 ULDR@0
5 - RB @ 0
6 - obstruction @ 30
7 - obs. @ >60
8 - " @ >90
9-12 ULDR @ 150
13 - obs @ >180
14-17 ULDR @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.0
Width at narrowest point of the stream within 300 meter reach	0.0
Width at the widest point of the stream within 300 meter reach	1.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

tracks / raccoon
hog
canine

sucking mud
crawdad huts
poison ivy

trash bags
typical road trash
tire
buckets
wood - bridges
tent
jar chair

camera

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: BA86

Date: 08Aug14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text.	

Comments: Click here to enter text. log jams

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Garbage, Tossjams

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. See prev.

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH01

Data Collectors & Contact Information: SR, JJ, CW 29 May 14	
Date & Time: 18 May 14 0820 - 0855 CST	County Name:
Stream Name:	KH per SR 30 May 14
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh	LR	Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): well worn path from SW side of bridge down to water

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☑Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

29 May 14 ICH

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Muddy - Scummy water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

foot - Path

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed. KH per SR 30 May 14

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

~~☐~~Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☐No secondary contact recreation activities were observed

☐Other secondary contact activities:

fishing tackle

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). None

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

poison ivy, snakes

KH per SR 30May14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

KH pres SR
30 May 14

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

08:00 public sit
NO Rec Photo #1

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: 08:20 - 08:55

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

- ~~Bit~~ cliff swallow under Bridge + poop
- Turtle
  Dead Pig
  Fish Jumping

32 meters

Distance	Depth (meters)
0 meters ULDR	2.14
30 meters	1.40
60 meters	1.35
90 meters	1.40
120 meters	1.36
150 meters ULDR	1.11
180 meters	1.1
210 meters	1.43
240 meters	1.39
270 meters	1.42
300 meters ULDR	1.50
Average	1.42

09 May 14 JLH

Photos
#2 access from bridge
#3, 4 & 5 - TRACR staff
#6 = fire & cigs
#7 Dark garbage
#8 " "
#9 trotline
10-13 ULDR
14 - cliff swallow Bridge
15-18 ULDR
19-22 ULDR
23-24 Snake

fishing tackle
remnants of fire

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	31 m
Width at narrowest point of the stream within 300 meter reach	20
Width at the widest point of the stream within 300 meter reach	32.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☑Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☑None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☑Fire pit/ring
☐Children's toys	☑Foot paths/prints	☑Fishing Tackle	☑Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

KH per SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☑Bird nests

Bird under bridge

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed:

Cans, fishing bait bag,

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH02

Data Collectors & Contact Information: SR, JS, CW	
Date & Time: 18May14 0955-10:40 CST	County Name: KH per SR 30May14
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

KH per SR 30 May 14

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L R	Forest		Urban		Rip rap
	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh	R	Row crops	Other (specify): Pecan Grove	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP. Steep slopes

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

PP, Steep Slopes.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

PP

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: PP, Steep slopes

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

KHP SR 30May14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☒Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

- turtle
- water dependant Bird: egret
- snake
- Raccoon track
- Tires
- obstruction at 300
- plastic at 300
- Fish
- Horsetail

Distance	Depth (meters)
0 meters	0.55
30 meters	~~0.70~~ 1.70
60 meters	1.55
90 meters	0.95
120 meters	0.75
150 meters	0.42
180 meters	0.50
210 meters	1.30
240 meters	1.1
270 meters	1.15
300 meters	0.40
Average	0.94

ICH 29 May 14

Photos #1 TIAER Staff

2-5 ULDR

6-9 ULDR

10-13 ULDR

14- tire

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	12m
Width at narrowest point of the stream within 300 meter reach	3m
Width at the widest point of the stream within 300 meter reach	31

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ~ Downstream ~ Left Bank ~ Right Bank ~

Photo #s (150 meters) Upstream ~ Downstream ~ Left Bank ~ Right Bank

Photo #s (300 meters) Upstream ~ Downstream ~ Left Bank ~ Right Bank ~

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per SR 30 May 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☑foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild snakes, birds	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock cattle	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks raccoon ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Plastic bottles, tires

Photo #1 12:25 @ CH04 Xing
NO Recreation

Field Data Sheets RUAA Survey

(complete for each site)

KH RR SR 30 May 14

Site: CH04

Data Collectors & Contact Information:	SR JJ CW
Date & Time: ~~10~~ May 14 ST 1230 ET 1315 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑~~high~~ ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

2R	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Thick bank veg. Steep banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

muddy, ~~[illegible]~~ submerged scrap metal, snakes abundant

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Bridge

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

1C H per SR 30 May 14

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per SR 30 May 14

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

Same as primary

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

KH per SR 30 May 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

poison ivy, snakes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Raccoon
unknown

D.S. from Bridge

Distance	Depth (meters)	Width
0 meters CLDR 7-10	>1.5	18.5
30 meters	>1.5	17m
60 meters	>1.5	19m
90 meters	>1.5	22m
120 meters	1.5	24 m
150 meters CLDR 3-6	1.08	
180 meters	>1.5	20
210 meters		
240 meters		
270 meters		
300 meters		
Average	1.46	

29 May 14 KH

#1 No Rec
#2 TIAER Stack

@Bridge

non-wadeable
• utility pipe obstructing boat.

Small fish
frogs Turtle
snake ~~XXX~~ 1
Cave swallows & nests
>Poop, Pigeons

too deep non-wadeable
- banks too steep & vegetated to get widths.
no boat access & too many obs. to boat.

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	19 m
Width at narrowest point of the stream within 300 meter reach	17
Width at the widest point of the stream within 300 meter reach	24

22

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

KH per SR 30 May 14

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☑Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☑Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Dense veg, snakes	

Comments:

KH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Saw 10

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) fish, turtles

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Killed per SR 30 May 14

Na

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☑large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Raccoon? Oink Birds

Garbage Observed → metal scrap

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Aluminum cans, bottles,

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 1

Site: CH06

Data Collectors & Contact Information: DBAM	
Date & Time: 18MAY14 0830CST	County Name:
Stream Name: 0930CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

HOSIB_CH06

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☒ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒	Forest	☐	Urban	☒	Rip rap
☒	Shrub dominated corridor	☒	Pasture	☒	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☒	Denuded/Eroded bank		

BRIDGE

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): BRIDGE ROW, RIP RAP

public ROW

6. Dominant Primary Substrate

☐Cobble ☐Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☒Concrete

THICK 0.5M

BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS, DENSE VEGETATION; RIP RAP/CONCRETE; SLICK CLAY & DEEP SILT

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

KH per SR 03 Jan 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

changed to soft silt-mud too quickly, plus accurnent

KH per AM
03 Jan 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (~~300~~ 180 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: 0830CST 0930 L

Site: CH06

Date: 18MAY14

Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance		Depth (meters)	
0 meters	ULDR 1-4	300m	>1.5
30 meters		270m	>2.0
60 meters		240m	0.65
90 meters		210m	0.4
120 meters		180m	0.39
150 meters	ULDR 5-8	150m	0.55
180 meters	9-12	120m	0.5
210 meters			
240 meters			
270 meters			
300 meters			
Average			0.76

POOL 50m+

TIRES RIPRAP

SEDIMENT TOO SOFT
SINK 0.5m CANNOT GO
CANNOT USE BOAT - IT WOULD FLOAT AWAY

TURTLE 13
TRACKS/SLIDE

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	1.5
Width at the widest point of the stream within 300 meter reach	11.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

HARD/SOFT CLAY
DEEP HOLES, FAST MOVING; DANGEROUS

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☒Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) BRIDGE	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☒sludge	☒solids CLAY	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common TIRES	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

HIGHWAY TRASH, PLASTIC BAGS, CANS, BOTTLES

Field Data Sheets RUAA Survey
(complete for each site)

TRIP 1

Site: 1407

Data Collectors & Contact Information:	DB AM
Date & Time:	18 MAY 11 0940 CST
Stream Name:	1050 CST
Segment No. or nearest downstream Segment No.:	County Name:
Description of Site:	

150 M STRETCH 225M US → 300 M BRIDGE → 375M DS

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

OR

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☒ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒	Forest	☐	Urban	☒	Rip rap
☒	Shrub dominated corridor	☐	Pasture	☒	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☒	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

LOTS OF DEBRIS/TREES AT BRIDGE; BANKS VERY STEEP

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): BRIDGE PP

6. Dominant Primary Substrate

☐Cobble ☐Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☒Concrete

TREACHEROUS, DANGEROUS

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

RIPRAP/CONCRETE/REBAR/TREES/DEBRIS DANGEROUS

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

BRIDGE

KH per SR 03 Jan 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAM

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

extremely excessive debris + holes (log breaking) + PI

ICH per AM
03 Jan 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s ~~(0 meters)~~ Upstream 375 Downstream 375 Left Bank 375 Right Bank 375

Photo #s (150 meters) Upstream 225 Downstream 225 Left Bank 225 Right Bank 225

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 270→200	70	7	1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

225→0 TOO DEEP TO WADE; NO BANK

IF YOU PUT IN A BOAT, I DO NOT SEE HOW YOU WILL GET IT OUT.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: CH07

Date: 18 MAY 14 Time: 0940 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
375 ~~120~~ meters DRUL @ 375	0 1.0
360 ~~150~~ meters	30 0.6
330 ~~180~~ meters	60 0.8
~~210~~ meters 225 ULDR 5-8	90 >1.5
240 meters	120 1.3
270 meters	150 >1.5
300 meters ULDR 1-4	180 0.55
Average	1.04

① 45M SHOT/BEND

225M – TOO DEEP TO WADE; NO BANK ACCESS

RIPRAP TREES POOL 1 – 70+ 7M WIDE

OBST – LOG SAM 9

KH 03 Jun 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	~~5~~ 3
Width at the widest point of the stream within 300 meter reach	~~10~~ 7

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

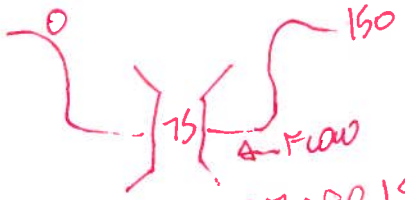
Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

① FROM 360 – 405 =

0 75 150 FLOW

FDS & PICS

300 BRIDGE
225 UPSTREAM
375 DOWNSTREAM



27 APR 15 RENAME PICTURES TO 0 DOWNSTREAM
75 BRIDGE
150 UPSTREAM

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☐None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

No

KH per AM 03 Jan 14

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Wild hog rooting

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☒common WWTP	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☐sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil
Other:					

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence
Comments:				

Mammals Observed within 300 meter reach

Wild TRACKS/POOP	☒None	☒slight presence AM	☐moderate presence	☒large presence ~~ROOTING~~
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs ROOTING/POOP	☒None	☐slight presence	☐moderate presence	☒large presence AM ROOTING
Comments				

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common TREES	☐Abundant	WASHED IN TREES
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed: CANS/BOTTLES/PLASTIC

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 1

Site: CH08

Data Collectors & Contact Information: DBAM	
Date & Time: 18 May 14 1115CST	County Name:
Stream Name: 1215CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☒ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

IC 11 per AM 23 Jan 14

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R L

☒	Forest	☐	Urban	☐	Rip rap
☒	Shrub dominated corridor	☒	Pasture	☐	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

IC 11 per AM 23 Jan 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): BRUSH / PASTURE fence, pp

6. Dominant Primary Substrate

☐Cobble ☒Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

VERY DEEP 0.5m - 0.75m SILT ON EDGES OF STREAM; LOTS OF WOOD DEBRIS, TREES & TRASH @ BRIDGE

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

ICH per SR 08 Jun 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

IC11 per AM 03 Jan 14

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

fence, pp

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

IC11 per AM 03 Jan 14

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream X Left Bank X Right Bank X

DEBRIS

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	300+	8.0	>1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CHOS

Date: _____ Time: _____

CHOS

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

TIRES/PLASTIC DRUM BOTTLES/CANS

[redacted]

Distance		Depth (meters)	
0 meters	ULDR6-9	300	0.63
30 meters		270	0.75
60 meters		240	0.46
90 meters		210	1.05
120 meters		180	1.75
150 meters	ULDR2-5	150	1.0
180 meters		120	1.17
210 meters		90	0.80
240 meters		60	0.75
270 meters		30	0.85
300 meters	DEBRIS IPC	0	DEBRIS
Average			0.86

300 m FOOT

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8
Width at narrowest point of the stream within 300 meter reach	4.3
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☐None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☒Log jams BRIDGE	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) BRIDGE	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

IC Harden 03 June 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

excessive debris @ entrance + sucking mud

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

No

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

IC Harden 03 Jun 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☐none	☒rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☐sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☒moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock CATTLE	☐None	☐slight presence	☐moderate presence	☒large presence
Feral Hogs	☐None	☐slight presence	☒moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common	☐Abundant	TIRES, LOGS, PLASTIC BARREL
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

BOTTLES, CANS, PLASTIC

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 1

Site: CH09

Data Collectors & Contact Information:	DB AM
Date & Time:	18 MAY PM 1230 CST / 1315 CST
Stream Name:	County Name: ICH per AM 03 Jan 14
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

ICH per SR AM 03 Jan 14

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

ICH per AM 03 Jan 14 KL

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☑ Forest	☐ Urban	☐ Rip rap
☑ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☑ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): BRIDGE; STEEP BANK PP

6. Dominant Primary Substrate

☒Cobble ☒Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS; DENSE VEGETATION

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Kilpec SR 03Jan14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

1611 per AM
23 Jan 14

P. 1

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	60	8.0	1.2
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: CH09

Date: 18MAY14 Time: 1230 1330

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

TIRES GRAVEL GPS
STEEP BANKS VEG
TREE(S)

PLASTIC CHAIR
SNAKE ALLIGATOR GAR

TRASH

Distance		Depth (meters)
~~0 meters~~	ULDR1-4	300m 0.25
30 meters		0.42
60 meters		0.39
90 meters		0.20
120 meters		0.30
150 meters	ULDR6-9	1.13
180 meters		1.3
210 meters		0.47
240 meters		0.33
270 meters		0.30
300 ~~meters~~		0m 1.00
Average		0.55

WATER BANKS
ALGAE

FENCE ALONG BANK

OBS(10)

VEG TRACK

KH03Jan14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.5
Width at narrowest point of the stream within 300 meter reach	3
Width at the widest point of the stream within 300 meter reach	9.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos). BRIDGE

☐Culverts	☐Fences	☐Log jams	☒Rip rap	☐Water control structure
☒Barbed wire ABOVE	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☒None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☒common	☐abundant	
Algae Cover	☐absent	☐rare	☒common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☒moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☒moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☒moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☒Abundant	TREES; PLASTIC CHAIR
Small garbage in the channel	☐None	☐Rare	☒Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed: PLASTICS, CANS, BOTTLES HIGHWAY TRASH;

Photo #1
Public X-ing
No Recreation
@ 3:35pm CST

Field Data Sheets RUAA Survey

(complete for each site)

ICH per SR 30 May 14

Site: CH 10

Data Collectors & Contact Information: SR, JJ, CW	
Date & Time: 17 May 14 3:40 CST - 4:38 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

Downstream

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

ICH per SR 30 May 14

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Steep Banks, log debris

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

muddy, abundant debris & log jams snags

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

yes @ Bridge

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Same?

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Steep banks, dense veg

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

KII per SR 30 May 14

Bees, snakes, poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Raccoon
beaver
Hog

beaver gnaw
Snakes
beaver Dam
Sedges
Bee hive in Tree.
crawdads
minnows
frogs
bird poop & tracks

	Distance	Depth (meters)
300	0 meters ULDR 25-28	.14
270	30 meters	.14
240	60 meters	1.5 m
210	90 meters	.5
-0-	120 meters ULDR Keep 14-17	.7
30	150 meters ~~ULDR~~ 7-10	.22
60	180 meters	.9
90	210 meters	.7
120	240 meters	.32
150	270 meters ULDR 18-21	.18
180	300 meters ~~ULDR 2-5~~	.14
	Average	0.49

KH 29 May 14

SR 17 May 14 ~~Impassable~~ ~~Non wadeable~~ ~~Steep slopes~~ ~~veg too thick~~

Photo #13 = Bees
photo # 12 = Log Obs.
photo #11 moss.

photo # 6 Log Obstructi
Photo 22 = bank garbag
Photos 23 & 24 = beaver Tracks

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.5
Width at narrowest point of the stream within 300 meter reach	.8
Width at the widest point of the stream within 300 meter reach	7m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tires under bridge
Alum. cans
bottles, plastics
Styrofoam

Scum
moss.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

KH per SR 30 May 14

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

KH per SR 30 May 14

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

KH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☑Other: Dumping from bridge

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Snakes, dense veg, abundant log debris

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Sedges, frogs, crawfish, small fish,

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

KH per SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Nor

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Bird

Beaver raccoon log

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed:

@bridge

Cans, bottles, Abandant tires, household trash bag dumped, Childrens slide/playhouse

Field Data Sheets RUAA Survey

(complete for each site)

ICH per SR 30 May 14

Site: CH 11

Data Collectors & Contact Information:	SR JJ CW
Date & Time: 17May14 2:30 – 3:10 cst	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L&R	Forest		Urban		Rip rap
	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP. Locked gate, no pub. access

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

muddy water & bottom, thick veg including poison ivy

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Hog
Raccoon
Canine

Distance		Depth (meters)
0 meters	ULDR 7	.14
30 meters		.86
60 meters		.14
90 meters		1
120 meters		.26
150 meters	ULDR 6-9	.4
180 meters		.76
210 meters		.86
240 meters		.74
270 meters		.26
300 meters	ULDR 1-4	.14
Average		0.51

photo 10 = Hog Wallow

Clams
tadpoles

Photo # 5 - Tires & Hog/ wildlife trail.

29 May 14 KH

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)	
Typical Average Width of 300 meter reach	4	
Width at narrowest point of the stream within 300 meter reach	2.3	2.3
Width at the widest point of the stream within 300 meter reach	6.4	6.4

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

glass bottles
Tires

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: After finished w/ RUAA, 2 guys poss. bly hunting in above pasture
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: Hog hunting by LO

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per SR 30 May 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Dense weeds.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

KH per SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Na

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Hog raccoon Birds

Garbage Observed

Tires

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

glass bottles

Field Data Sheets RUAA Survey

(complete for each site)

ICH for SR
30 May 14

Site: CH 12

Data Collectors & Contact Information:	SR JJ CW
Date & Time: 17May14 12:35 - 1:15 cst	County Name: Grayson
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Steep banks, PP, muddy water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Grassy b the creek, but impacted by debris

ICH per SE 30/04/14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). ~~Access~~ Steep banks at bridge/road

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1 H per SR 30 May 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Lots of debris on banks, & steep

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Access Rd. 75 CH12
Public Road Xing
NO Rec. Photo # 12
12:30 cst.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: CH12

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR 2-5	.16
30 meters	.8
60 meters	.4
90 meters	.6
120 meters	.58
150 meters ULDR 7-10	.98
180 meters	.3
210 meters	.86
240 meters	.3
270 meters	.5
300 meters ULDR 12-15	.1
Average	0.51

KH 29 May 14

Tracks
Raccoon
Beaver
Canine
pig
poison ivy
bird poop
Crawfish
Vultures roosting in canopy above creek.
beaver gnaw
small fish
frogs
turtle

Snake

#6 Photo - Beaver slide

Location (≈10 m past large sycamore on ~~Rt~~ Rt Bank
Pic #11 - obst.
- just ~~past~~ 10 m past old bridge pile-ons.

#10 Photo - algae

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	1.7
Width at the widest point of the stream within 300 meter reach	11.8

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tires
Styrofoam
plastics

Smelly mud.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1H per SR 30 May 14

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved) @ hwy	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

1H per SR 30 May 14

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

1H per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per SR 30 May 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No smelly mud

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) small fish, crawdads, beaver evidence

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

KH per SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☑common	☐abundant	
Color	☑clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Amphibians

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

canine beaver

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks hog, raccoon ☑Fecal droppings bird ☐Bird nests

KH per SR 30 May 14

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

10:04 Photo #1 No Rec. at public site e Farmington Road.

KH per SR 30 May 14

Site: CH13

Data Collectors & Contact Information:	SR, JJ, CW
Date & Time: 17 May 14 10:05 - 11:09 CST	County Name: Grayson
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☑ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Steep slopes, pp

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Very steep, not fenced

ICH per SR 30May14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☑limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Same

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

slick + steep banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters CLOR 03-16	.34
30 meters	.42
60 meters	.52
90 meters	.02
120 meters	.4
150 meters CLOR 8-11	.24
180 meters	.52
210 meters	.12
240 meters	.02
270 meters	.12
300 meters CLOR 2-5	.04
Average	0.25

KH 29May14

raccoon tracks
cow poop
frogs
Crawfish
Minnows
tadpoles
Dumping of garbage.
poison ivy
bird poop
bottles
cans
paper
Tires
Styrofoam

#12 photo tire planter
6 photo - trash
#7 photo - algae

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1m
Width at narrowest point of the stream within 300 meter reach	.6
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

KH per SR 30 May 14

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

KH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Same

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Clam shells, fish.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Raccoon Bird and cattle

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Bottles, cans, tires, styrofoam, paper

Site CH14 public s/r
Photo #1 - No Rec.
8:48am

Field Data Sheets RUAA Survey

(complete for each site)

IC H per SR 30 May 14

Site: CH14

Data Collectors & Contact Information:	SR JJ CW
Date & Time:	7 May 14 8:55 CST - 9:40 County Name: Grayson
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

IC H per SR 30 May 14

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL

CH per SR 30 May 14

[✓]	Forest	[ ]	Urban	[ ]	Rip rap
[ ]	Shrub dominated corridor	[ ]	Pasture	[ ]	Concrete
[ ]	Herbaceous marsh	[ ]	Row crops	Other (specify):	
[ ]	Mowed/maintained corridor	[ ]	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): pp, fenced, steep banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

mossy

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

KH per SE 30 May 14

Fenced, ~~rip-rap~~ steep slopes, p p

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). pp. no roads

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

VH per SR 30 May 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No, just p.i.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
~~[illegible]~~ Cows
cow poop
poison ivy
bird poop
horsetails
Raccoon fecs
Tadpoles
Crawdad

Distance	Depth (meters)
0 meters ULDR 1-4	0.04
30 meters	.06
60 meters	.02
90 meters	.44
120 meters	.4
150 meters ULDR	.5
180 meters	.24
210 meters	.2
240 meters	.48
270 meters	.04
300 meters ULDR	.52
Average	0.27

Pic#5 Tire

Pic#6 obstruction

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.5
Width at narrowest point of the stream within 300 meter reach	.4 ~~[illegible]~~ .4
Width at the widest point of the stream within 300 meter reach	9.5 ~~[illegible]~~ ~~6.8~~ 9.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Alum. can
glass bottle
plastics

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

KH per SR 30 May 14

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

KH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

K II per SR 30 May 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) clam shells, horsetail, crawfish, tadpoles

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

K Hyer SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks (cow) ☑Fecal droppings (coil, bird, raccoon) ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

bottles, alum cans.

Field Data Sheets RUAA Survey

(complete for each site)

* Public Site 17 May 14 Photo @ OB Groomer Rd. Crossing 0740 NO Recreation

CH per SR 30 May 14

Site: CH 15

Data Collectors & Contact Information: SR JJ CW	
Date & Time: 17 May 14 7:40 - 8:30 CST	County Name: Grayson
Stream Name: CH1	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☑low ☐normal ☐high ☐flooded

SR 17 May 14

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

CH per SR 30 May 14

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

DL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Dense veg, Steep Slopes

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

DP, muddy, overhang, steep slope

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

KH per SR 30 May 14

Fenced, twice

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

Same

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time: 0745 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Cow
Canine

Distance	Depth (meters)
0 meters ULDR 2-5	.62
30 meters	.32
60 meters	.86
90 meters	1.1
120 meters	.44
150 meters ULDR 7-10	.1
180 meters	1.04
210 meters	.22
240 meters	.52
270 meters	.72
300 meters ULDR	.16
Average	0.55

#6 Livestock Ring

#11 Fossil

#12 Algae

Bird poop
Crawdads
Bivalves

ICH 29May14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.5
Width at narrowest point of the stream within 300 meter reach	.6
Width at the widest point of the stream within 300 meter reach	7.3

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

KH per SR 30May 14

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☑Fences
- ☐Log jams
- ☑Rip rap
- ☐Water control structure
- ☑Barbed wire
- ☐Dams
- ☑Thick vegetation
- ☐Low bridges
- ☐None
- ☐Utility pipe
- ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

KH per SR 30May 14

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other:
- ☑None of the above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☐Wildlife
- ☑No public access
- ☑Fence
- ☐Industrial
- ☑No roads
- ☐No trespass sign
- ☐Steep slopes
- ☑Other: Dense veg
- ☐Barge/ship traffic
- ☐None of the above

Comments:

KH per SR 30May 14

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐Other:
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

KH per SR 30 May 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

KH per SR 30 May 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☑slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Caws, canine Bird droppings

Garbage Observed

Large garbage in the channel	☑None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

alum. cans, some plastic. 1 old washer,

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH16

Data Collectors & Contact Information: SR JS CW
Date & Time: 16 May 11 1850-1935 CST County Name:
Stream Name:
Segment No. or nearest downstream Segment No.:
Description of Site:

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest		Urban	Rip rap
Shrub dominated corridor		Pasture	Concrete
Herbaceous marsh		Row crops	Other (specify):
Mowed/maintained corridor		Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): fence, PP.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

PP, fence, dense veg, steep Banks

K Harper SR 30 May 14

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Fenced, PP

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR 1-4	.15
30 meters	.4
60 meters	.38
90 meters	.02
120 meters	.20
150 meters 6 4 DR	.32
180 meters	.16
210 meters	.54
240 meters	.38
270 meters	.54
300 meters ULDR	.02
Average	0.28

Raccoon Tracks

Photo #5 Log Jam @ 120

*Started @ upstream most point

tadpoles
frogs.
Poison ivy

KH 29 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	.7
Width at the widest point of the stream within 300 meter reach	~~4.2~~ 6

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Sarcophagus (locker)

water plants

aluminum cans / Plastics / Trash dumped off Bridge

Algae

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

KH per SR 30 May 14

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☑Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

KH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☐Bird nests

Raccoon

Garbage Observed

Large garbage in the channel	☑None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Aluminum cans, plastics,

Field Data Sheets RUAA Survey

(complete for each site)

ICH per SR
30 May 14

Site: CH17

Data Collectors & Contact Information:	SR JJ CW
Date & Time: 6May14 1752-1820 CST	County Name: Grayson
Stream Name: Choctaw	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

Go Downstream All

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban		Rip rap
L/R	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

~~no water~~, pp. fence, very little water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

road crossing

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

pp. fence, little vegetation

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Same as 2

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). pp. fence

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

ICH per SR 30 May 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Raccoon Trx
Cattle trx
Canine Trx

Started @ upstream point

Paper cup
Alum. cans
Plastics

Distance	Depth (meters)
0 meters ULDR 1-4	.69
30 meters	0
60 meters	0
90 meters	0
120 meters	0
150 meters ULDR 6-9	0
180 meters	0
210 meters	0
240 meters	.06
270 meters	0
300 meters ULDR 10-13	0
Average	0.07

KH 29May14

Pic #5 livestock X-ing.

(no when to flag this trans.

Pic#14 obstruction @ 2.85

Pic# 15 obstruction @ ≈2.60

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	7.4

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

ICH per SR 30 May 14

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☑No public access	☐ No roads	☐Other:	

Comments:

ICH per SR 30 May 14

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) N/A

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☑slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☐Bird nests

Cattle, raccoon, canine

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Alum. Cans
paper cup
Plastics
[illegible]

2

Field Data Sheets RUAA Survey

(complete for each site)

Start: End:

Site: CH01

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/12/2014 / ~~0830~~ cst 0730	County Name:
Stream Name: Choctaw Creek KH per SR 11 Aug 14	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): access @ roadway with steep decline to creek - requires a boat

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

KH per SR 11 Aug 14

Footpath from road to water

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH01

Date: 7/12/2014 Time:

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Nothing same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

same as before

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey
(complete for each site)

Stream Name: Chodaw Creek Site: CH01

Date: 7/12/2014 Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Nothing KH per SR 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH01

Date: 7/12/2014 Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH01

Date: 7/12/2014 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

small fish
gar
great blue heron
hogs sighted
snake
trot lines

Distance	Depth (meters)
0 meters ULDR 5-8	2.5
30 meters	1.6
60 meters	1.2~~3~~
90 meters	1.2~~2~~
120 meters	1.1~~2~~
150 meters ULDR 9-12	1.2~~1~~
180 meters	.99
210 meters	.99
240 meters	.82
270 meters	1.2
300 meters ~~ULDR 14-17~~ KB	1.3
Average	1.3

Pictures
1- footpath
2- fishing bait
3- shotgun shells
4- Beer cans/burn pile
5-8 - ULDR
9-12 - ULDR
13- scum on water
~~14-17 - ULDR~~ KB
18- feral hogs
- snake

KH 06 Aug 14 KH per SR 06 Aug 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	30
Width at narrowest point of the stream within 300 meter reach	29
Width at the widest point of the stream within 300 meter reach	~~31.5~~ 32

KH 06 Aug 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ KB Downstream KB Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH 01

Date: 7/12/2014 Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH01

Date: 7/12/2014 Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Kilpen SR 11 Aug 14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☑Fire pit/ring
☐Children's toys	☐Foot paths/prints	☑Fishing Tackle	☐Remnants of kids' play	
☑Other: cans, bottles, trash				

Comments: trotlines

Field Data Sheets RUAA Survey

(complete for each site)

CH w/perm SSCar from SR 06 Aug 14

Stream Name: Choctaw Creek Site: CH01

Date: 7/12/2014 Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Small fish, gar, signaing of hogs, scum on water surface, snake,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Great Blue Heron

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None CH per SR 11 Aug 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common on surface	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☑green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☑moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☑Bird nests

birds CH 06 Aug 14

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☑Abundant

Briefly describe the kinds of garbage observed:

small garbage at entrance on banks. cans, glass, bottles.

2

11 H per SR
11 Aug 14

0847 cst

Start: ~~0947~~

End: 1036 CST

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH02

Data Collectors & Contact Information: SR MG KB	
Date & Time: ~~[illegible]~~ 12 July 14	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L/R Forest	Urban	Rip rap
Shrub dominated corridor	R Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify):
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): private property, steep banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

£

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH02

Date: 7/12/2014 Time: 0947

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Brown water, & shallow & muddy, algae scum on surface

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH02

Date: 07/12/2014 Time: 0947

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). private property, steep banks, dense veg.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No frog ICH per SK 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CHOZ

Date: 7/12/2014 Time: 0947

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: CH Site: CH02

Date: 12/30/14 Time: 9:47 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Small fish
water snake
water dependent birds
cattle, tracks & feces seen, path down to water.

Turtle shell

Distance	Depth (meters)
0 meters	ULOR 1.1
30 meters	1.82
60 meters	1.7
90 meters	.94
120 meters	.7
150 meters	ULOR .6
180 meters	.48
210 meters	.44
240 meters	.58
270 meters	.74
300 meters	ULOR .34
Average	0.86

[redacted] environment.

KH 06 Aug 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	20
Width at narrowest point of the stream within 300 meter reach	3 m
Width at the widest point of the stream within 300 meter reach	30

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH02

Date: 7/12/2014 Time: 0947

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☑Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

KII per SOP 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH02

Date: 7/12/2014 Time: 0947

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Some bank garbage (plastic bottles)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None KH per SR 11 Aug 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☑moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Cattle

Which are Vertebrates.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☑moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

KH per SR 11 Aug 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks (Cattle) ☑Fecal droppings (Cattle) ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Some bottles

KH per SR 11/19/14

Start: 1025 cst End:

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH03 KH 06/19/14

Data Collectors & Contact Information: SR, KB, MG	
Date & Time: 7/12/2014	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): access @ roadway with steep entrance

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☑Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

same as before

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

treacherous boulder descent

CH per SR 11 lbs 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH03

Date: 7/12/2014 Time: 1125 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

TTX raccoon deer cattle

Feces

Bird

Distance	Depth (meters)
0 meters	ULDR ~~1.0~~ 1.0
30 meters	.4
60 meters	.25
90 meters	.2
120 meters	.34
150 meters	ULDR 1.0
180 meters	.8
210 meters	.55
240 meters	.2
270 meters	.35
300 meters	ULDR .45
Average	0.50

waterhyacinth small fish water dep. birds crawfish exo. Bulrushes clamshells. frogs

KLH collected (06Aug14)

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0
Width at narrowest point of the stream within 300 meter reach	2.5
Width at the widest point of the stream within 300 meter reach	3

KLH per SR 11Aug14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Plastic/ household garbage tires

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: ICH per SR 11/19/14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☑Other (specify): concrete debris			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

dumped garbage

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

water dependent birds, small fish, clamshells, frogs

Upper SR 11 Aug 14

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☑common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed:

Tires

small trash, bottles, cans, trash bags w/ dumped trash

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0300 1400 CST End: 0348

Site: CH04

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/12/2014 / 0300	County Name:
Stream Name: Choctaw Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

Upper SR 11 Aug 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): access at roadway with steep entrance and overgrowth of plants

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☑Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before / also depth of creek. very deep

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

same as before

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before and deep water

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before and deep water

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

Same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None KH per SR (Vhg/4

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☑Non-wadeable

Dense bank vegetation and it became non-wadeable in both directions

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Got ULDR at 120M

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters 90 meters	1,08 1,0
30 meters 60 meters 26M wide	~~0.8~~ >1.5
60 meters 30 meters	1.2
90 meters 0 meters 21M wide	>1.2
120 meters 25M wide	>1.5
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	0 1.3

tracks
Beaver tracks
Squirell tracks
Raccoon tracks
Canine tracks
Bobcat tracks
feces
bird at bridge
feces

Bird nests under bridge

Pictures
1 - snake
2 - snake 90M
3-6 - UL-DR ~~120~~
7-10 ULDR 120M
11 -

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

spotted gar fish

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	20
Width at narrowest point of the stream within 300 meter reach	18
Width at the widest point of the stream within 300 meter reach	26

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos ~~facing upstream~~, downstream, left ~~bank~~, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Effect SR 11Aug14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: overgrown banks	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 7/12/2014 Time: 0300

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Snake, beaver tracks, squirrel tracks, gar fish

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Small garbage at bank - cans, bottles

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH04

Data Collectors & Contact Information: SR MG KB	
Date & Time: 12 Jul 14 1400 - 1448 (est)	County Name: Click here to enter text.
Stream Name: Choctaw Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	L Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Access at roadway with steep entrance and overgrowth of plants

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☑Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 12 Jul 14 Time: 0400 cst

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text Same as previous. Deep - non wadeable

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text Same as previous

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 12JUL14 Time: 1400 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous & deep water non wadeable >1.5

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See previous Comments

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See previous Comments

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 12 Jul 14 Time: 1400 cst

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

Dense bank veg and it became non-wadeable in both directions

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 12 Jul 14 Time: 0300

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
Beaver
Squirrel
raccoon
bobcat

Fecal
bird

Bridge
Pipe

vest under bridge (bird)

spotted gar

2 snakes

Distance	Depth (meters)	width
0 meters	[illegible]	
30 meters	>1.5	25m
60 meters	>1.5	21m
90 meters	1.2	
120 meters	>1.5	26m
150 meters	1.10	
180 meters	>1.5	21m
210 meters		
240 meters		
270 meters		
300 meters		
Average	1.3	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	20
Width at narrowest point of the stream within 300 meter reach	18
Width at the widest point of the stream within 300 meter reach	26

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☑Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text. evergreen bank vegetation	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH04

Date: 12Jul14 Time: ~~0800~~ 1400 CST

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. snakes,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

fish

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

NA

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Small garbage at bank – cans, bottles

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0700 cst End: 0745

Site: CH05

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/13/2014	County Name:
Stream Name: Choctaw Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR ✓	Forest		Urban		Rip rap
	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy (KB) ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): access @ roadway with steep banks but trail down to waterbody

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey
(complete for each site)

Stream Name: Choctaw Creek Site: CH05

Date: 7/13/2014 Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

public access at roadway. There are paths down to the waterbody but they are very steep and overgrown.

KH per SR 11 Aug 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH05

Date: 7/13/2014 Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None KLt per SR 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH05

Date: 7/13/2014 Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☑Non-wadeable

wadeable from 300 to 240 M then needed the boat

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH05

Date: 7/23/2014 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR 10-13	0.45
30 meters	2.3
60 meters	0.49
90 meters	0.79
120 meters shells 9	0.2
150 meters ULDR 5-8	~~2.15~~ 0.25
180 meters	1.5
210 meters	1.5
240 meters	0.35
270 meters	0.40
300 meters ULDR 1-4	0.45
Average	0.79

KH 08/Aug 14

tracks
raccoon
Beaver tracks
wildlife trail
Hog tracks

feces
bird feces in trees and on rocks

- turtle
- fish
- clam shells
- bird nests under bridge
- feathers under bridge (old pillow)
- sighted a great blue heron
- snail on boat

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0
Width at narrowest point of the stream within 300 meter reach	2.0
Width at the widest point of the stream within 300 meter reach	18

KH person 11/Aug 14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

300
150 M
0 M

Photo #s (0 meters)	Upstream	Downstream	Left Bank	Right Bank
Photo #s (150 meters)	Upstream ✓	Downstream ✓	Left Bank ✓	Right Bank ✓
Photo #s (300 meters)	Upstream ✓	Downstream ✓	Left Bank ✓	Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH05

Date: 7/13/2014 Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑~~None of the above~~
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: overgrown banks	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: NONE but dumping under bridge - tins

Field Data Sheets RUAA Survey

(complete for each site)

06 Aug 14 KH w/permission from SR

Stream Name: Chootaw Creek Site: CH05

Date: 7/13/2014 Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)
Raccoon tracks, bird nest and feces in abundance under bridge, bird feathers in abundance unedr bridge, beaver tracks, wildlife trail, hog track

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, snail etc. (Attach photos) Turtles, fish, clam shells, Great Blue Heron

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).
None Kit per SR 11 Aug 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Kit per SR 11 Aug 14

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed:
glass bottles, cans, plastic wrappers, tires @ bridge

Field Data Sheets RUAA Survey

(complete for each site)

Trip #2

Site: CHOG

Data Collectors & Contact Information: Click here to enter text. AM JJ KH	
Date & Time: 13 Jan 14, 0715 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

steep banks
slick clay, deep & loose seds, submerged objects
garbage & thick veg. on banks
pp, but no fence & access is off HWY

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See page 1, 5

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH06

Date: 13 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text

D. Noncontact Recreation Evaluation See prev.

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

overhang hazard - see photos

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream 210 Downstream 210 Left Bank 210 Right Bank 210

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH/OG

Date: 13 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

pool above 0m

US

Distance	Depth (meters)	
0 meters	300m	>1.5
30 meters	270m	>1.5
60 meters	240m	0.70
90 meters	210m	0.45
120 meters	180m	0.46
150 meters	150m	0.56
180 meters	120m	0.65
210 meters	90m	0.65
240 meters		
270 meters		
300 meters		
Average		0.81

DS

all 4 maps

1-4 ULDR@0

5-overhanging hazard

6- " hazard

7-10 ULDR@150

11-14 ULDR@210

unreachable due to loose seds (up to +/or past waist)

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	0.6
Width at the widest point of the stream within 300 meter reach	~~6.2~~ 7.00

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

shells submerged objects (lg + sm)

tracks
deer
hog

slick mud
loose, thick seds
compacted mud

scrap metal
tires
typical road trash

* heard hog

dead crawdad

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CHOC

Date: 13 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text.	

Comments: Click here to enter text. slick clay

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural; HWY area

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

tripd

(complete for each site)

Site: CHC7

Data Collectors & Contact Information: AM, DD, KH	
Date & Time: 13 Oct 14, 0630 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

Log-breaker site

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap	
RL Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	RL Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☐Concrete

long distance from road parking to water body pp, but no fence

descent is chain link on rocks

river appropriate more for boat, but could get boat to water

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Silt, mud + big jagged rocks steep banks submerged trees, trees, rebar, rock

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

big, jagged, submerged things on slick mud, w/ sink holes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH07

Date: 13 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	>1.5
90 meters	1.40
120 meters	>1.5
150 meters	0.36
180 meters	0.80
210 meters	0.90
240 meters	
270 meters	
300 meters	
Average	1.08

US

DS

tracks / hoes

FDS & PICS 27APR15

5-8 ULDR@60 U-logjam

1-4 ULDR@150 R-logjam

9-logjam@>180

10-13 ULDR@210

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~5~~ 6
Width at narrowest point of the stream within 300 meter reach	~~8~~ 4
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

2 snakes

off road access

chain link covered rocks

tires

jars, bottles, plastics

submerged riprap + trees + tires

sinkholes between solid @ floor

[redacted]

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach		☐Docks or rafts
☐Residential	☐Bridge crossing		☐Commercial outfitter
☐National forests	☐Commercial boating		☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school		☐Power Line Corridor
☐Golf course	☐Paved parking lot		☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot		☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☑NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. see prev.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. None

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. rural area, HWY access

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey Trip #2

(complete for each site)

Site: CH08

Data Collectors & Contact Information: AM, MG, KH
Date & Time: 10 Oct 14 1458 cst County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

L R Forest		Urban	Rip rap
	Shrub dominated corridor	L R Pasture	Concrete
	Herbaceous marsh		Row crops Other (specify): Click here to enter text.
	Mowed/maintained corridor		Denuded/Eroded bank

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Steep banks, vegetation, debris pileup, barbed wire fence, Prop

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text steep banks, vegetation on banks, log debris

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text See previous

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

See Previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text

See Previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See Previous

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

11-14 Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

5-8 Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

1-4 Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

270

9 obs

0 cattle trail

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	300+	10	1
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Reach was one large Pool

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CHC8

Date: 10 Jul 14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)	
0 meters	300	0.45
30 meters	270	0.64
60 meters	240	0.83
90 meters	210	0.82
120 meters	180	0.81
150 meters	150	0.9
180 meters	120	0.65
210 meters	90	0.48
240 meters	60	0.9
270 meters	30	0.9
300 meters	0	
Average		0.74

~~inaccessible~~ 11-14 UL

10 cattle trail

9 obstruction

ULDR 5-8

1-4 ULDR inaccessible, excessive garbage shown in pic 3 (plastics, Aluminum

DEBRIS @ Bridge

29 Jul 14 ICH

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8.5
Width at narrowest point of the stream within 300 meter reach	2.9
Width at the widest point of the stream within 300 meter reach	10 m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream ✓ | Downstream ✓ | Left Bank ✓ | Right Bank ✓

Photo #s (300 meters) Upstream ✓ | Downstream ✓ | Left Bank ✓ | Right Bank ✓

270 m, cannot access 300 m (garbage)

~~55~~ 12 Jul 14

Frog

Turtles

crawdad but

raccoon tracks

tires

Typical Garbage (bottles, cans, glass, plastics, tires)

Bird poop

Cow poop / tracks

55 gallon barrel PLASTIC

Telephone pole

Barbed wire Fence

Private Property

Bottom Deposit

Mud clay / some gravel

Tracks

Turtle, canine, racoon, ~~turtle~~ bovine

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text.	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)
Click here to enter text. excessive debris : garbage @ bridge

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)
Click here to enter text. Turtle, frogs, crawdad hut

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).
Click here to enter text. Rural Area, cattle pasture land

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☑debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc. Turtle, raccoon, bovine, canine

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Typical Assorted Plastics, glassware, tires, Aluminum cans/ bottles

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 2

Site: CHC9

Data Collectors & Contact Information: Click here to enter text. 4M, 22, 1LH	
Date & Time: Click here to enter text. 1 Dec 14, 1407 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

pp, access of HWY bridge, no fence
steep banks w/ dense veg.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. log jams, submerged barbwire fence

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH09

Date: 18 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

steep banks, poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	44	10	~~1.0~~ 1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH09

Date: 18 Jul 14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	~~0 meters~~ bridge	30m 0.20	1-4 LL DR@0
	30 meters	0.30	
	60 meters	0.30	5-8 LL DR@150
	90 meters	0.20	
	120 meters	0.28	9- 2 jam@240
	150 meters	1.0	
	180 meters	0.9	
	210 meters	0.45	
	240 meters	0.37	
	270 meters	0.20	10-13 LL DR@300
DS	~~300 meters~~	0 m 0.9	
	Average	0.44	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.5
Width at narrowest point of the stream within 300 meter reach	2.5
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

tracks cow feces carbonate fence in stream @ >20C

minnows tires

birds cow coming wastewater treatment smell

shells cars

cows riprap

bottles, plastic caps

cigar scrap metal

cleared bits

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH09

Date: 18 Jul 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. pasture area, pasture land

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text. chlorine by-product stench

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird, cow

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 2

Site: CH 16

Data Collectors & Contact Information: Click here to enter text. AM JD KH	
Date & Time: 18 Jul 14 0945 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

BACKWARDS

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☑low ☐normal ☐high ☐flooded

0.0

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

hc Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Steep banks
dense veg on banks
pp but no fence

detritus of trees

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. log jams, dense veg. in streams, sucking mud

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH 10

Date: 12 Jul 14 Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	41	3.5	0.7
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

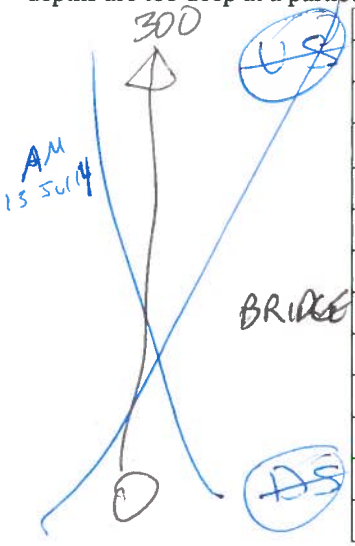
Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: CH10

Date: 18 Jul 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.



Distance	Depth (meters)
0 meters Correct	0.10
30 meters	0
60 meters	0.70
90 meters	0.45
120 meters	0.10
150 meters	0
180 meters	0
210 meters	0.35
240 meters	0
270 meters	0
300 meters bridge	0
Average	0.15

1-4 ULDR@0 logjam in U + in D

5 - logjam@290

6-9 ULDR@150

10 - logjam@240

11-14 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	7.8

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tracks
raccoon
deer
hog
other

turtleshell
shells
waterbird
minnows
aq. veg
crowded hut
thick veg in channel
Press

fines
bottles
carpet
plywood
jar

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH10

Date: 17 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☐Fences
- ☐Dams
- ☐Other (specify): Click here to enter text.
- ☑Log jams
- ☑Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☐None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other: Click here to enter text
- ☑None of the above

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☑Wildlife
- ☐No public access
- ☐Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☑Steep slopes
- ☐Other: Click here to enter text.
- ☐Barge/ship traffic
- ☐None of the above

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. logjams

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. Seepage.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area; cropland

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text. KH 12 Jul 14

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH11

Data Collectors & Contact Information: AM, SDB, KH	
Date & Time: 10 Jul 14, 1105 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor	RL	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

entirely within pp; 2 fences, 1 locked gate

dense brush/forest 50m on entry side of channel

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text See steep banks, lack of water, dense brush on banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH11

Date: 17 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Strong hog presence

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream Downstream Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 300-275	25	6.5	0.80
Pool 2	50	6.0	0.80
Pool 3 beyond visible reach; starts @ 285			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

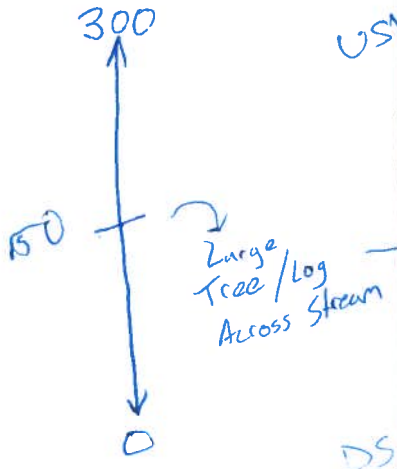
Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH11

Date: 12 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.



300

150

0

Large Tree / Log Across Stream

Distance	Depth (meters)	
US 0 meters	1.00	
30 meters	~~0~~ 0	9-12 ULDR@0 D-logjam
60 meters	~~0.23~~ 0	
90 meters	0	
120 meters	0.10	
150 meters	0.15	1-4 ULDR@150
180 meters	0.40	5-hogwallow@210
210 meters	0.65	
240 meters	0.15	
270 meters	0	
DS 300 meters	0.80	5-8 ULDR@300
Average	0.30	

12 Jul 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.5
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	6.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Tracks
deer
hog
raccoon

hogwallows

tires
jars
3-4 ft plastic pipes
buckets
broken glass
2 inner tubes (possible flood debris)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH11

Date: 18 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. dense forest/brush on entry ~5cm

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. seepage

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. rural area; pasture; hunting stand up?) ~100m

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings (bird) ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

Trip #2

(complete for each site)

Site: CH 10

Data Collectors & Contact Information: AM, DG, KH	
Date & Time: 10/21/14 0905 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

Flow @ 300

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor	RL	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

leaves/detritus

steep banks + sucking mud
dense bank vegetation
private property, but no fence
access off of HWY ramp
No good parking
strong odor

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. ~~See previous~~ water, sucking mud, bench, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH10

Date: 10 Jul 14 Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Hz 3 odor

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

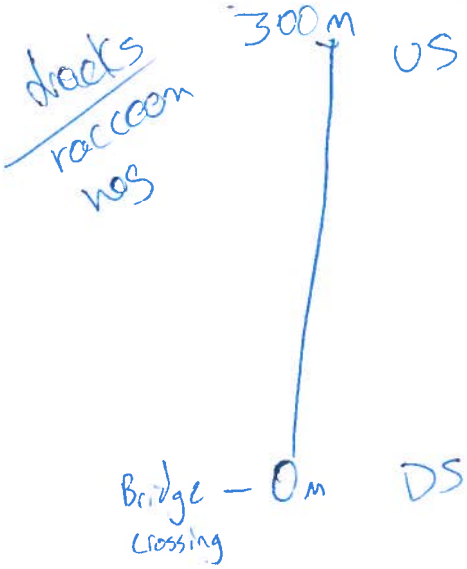
Stream Name: _____ Site: CH 12

Date: 12 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

300 m

US



Distance	Depth (meters)
0 meters	~~0~~ 0.77
30 meters	0.30
60 meters	0.02
90 meters	0.67
120 meters	0.13
150 meters	0.6
180 meters	0.55
210 meters	0.50
240 meters	0.28
270 meters	0.85
300 meters bridge	0.80
Average	0.50

14 Jul 14

DS

drocks / raccoon nos

Bridge – 0 m crossing

9-12 ULDR @ 0

5-8 ULDR @ 150

1-4 ULDR @ 300
R – sucking mud
U – beaver dam

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.~~0~~5 KH 12 Jul 14
Width at narrowest point of the stream within 300 meter reach	0.5
Width at the widest point of the stream within 300 meter reach	7.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Frogs
turtle
scum/algae
H_2S odor
beaver gnaw
watersnake II
anoxic odor
crawdad huts

riprap
cans, bottles
tires
metal

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH 12

Date: 18 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. beaver dam

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text. beave dem			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Slough

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. seaprev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Maintained HWY area, river in forested corridor

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☐rare	☐common	☑abundant	
Color	☐clear	☑green	☐red	☑brown	☑black
Bottom Deposit	☑sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	~~☐None~~ ☑slight presence 2	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

DOG

Garbage Observed

TIRES

Large garbage in the channel	☑None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey Trip #2

(complete for each site)

Site: Click here to enter text. CH13

Data Collectors & Contact Information: Click here to enter text. AM JJ KH	
Date & Time: Click here to enter text. 10 Jul 14, 0835 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Very steep access

6. Dominant Primary Substrate

☑Cobble ☐Sand ☐Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

private property, but no fence
No good parking
poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. fast moving water, steep banks, poison ivy, veg in channel

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH13

Date: 10 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

overly steep banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: CH13

Date: 12 Jul 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks
deer
canine
bird
heron
raccoon

Bridge 300 m

0 m

Distance	Depth (meters)
0 meters bridge	0
30 meters	0
60 meters	0
90 meters	0
120 meters	0
150 meters	0
180 meters	0
210 meters	0
240 meters	0.13
270 meters	0
300 meters	0
Average	0.012

14 Jul 14

1-4 ULDR@0
5 - buzzard@60
6-9 ULDR@150
10-13 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	2.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

caps, plastic, bottles, cans
metal
household garbage
tires
crowded huts
bridge@180 for Railroad
snake

non-aq. veg. in stream
dark bird - lg

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH13

Date: 18 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Steep banks, bridge used to dump garbage

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See pics

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text. Only puddles

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

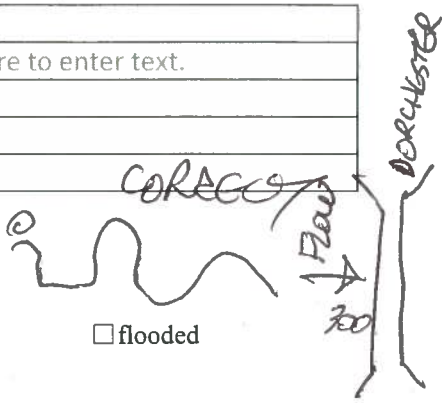
Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH 14 Click here to enter text.

Data Collectors & Contact Information: AM 22 KH Click here to enter text.	
Date & Time: 12 Jul 14, 074 Scst Click here to enter text.	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	



LABELED WRONG DIRECTION

A. Stream Characteristics: 300 → 0

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

steep, pp
poison ivy
barb wire fence up to bridge on all sides
non-aq. veg in channel

No good parking

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. marshy, water, steep banks, non-ag. veg in stream

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. No, see prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH14

Date: 18 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Hog presence

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH14

Date: 18 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

rocks
logs

DS

Distance	Depth (meters)
0 meters bridge	0
30 meters	0
60 meters	0
90 meters	0
120 meters	0
150 meters	0
180 meters	0
210 meters	0
240 meters	0
270 meters	0
300 meters	0
Average	

US

1-4 UCDR@C

5 - obstrn. @ >90

6-9 UCDR@1SC

10 - beercans @ 150

11 - log jam

12 - log jam @ >180

13-16 UCDR@ 3Ce

log jam in U @ 300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	2.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

non-ag veg in channel
game trail @ 30

shells
raccoon feces of cracklets
poison ivy
cow feces

tires
beercans
plastic
bricks
can of paint?
sm. scrap metal

can - (beer set) @ bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH14

Date: 18 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

past reach

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☑Other: Click here to enter text. beer can collection

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Excessive hog presence

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. See prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text. only few ponded areas, & they were small

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

hog bird, raccoon

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

WRONG DIRECTION LABLED END 300 ← 0 START INSTEAD OF 0 → 300

Field Data Sheets RUAA Survey

(complete for each site)

Trip #2

Site: CH 15 Click here to enter text.

Data Collectors & Contact Information: Click here to enter text. AM 22 KH	
Date & Time: Click here to enter text. 12 Jul 14 0700 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

KH 12 Jul 14

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. pp

6. Dominant Primary Substrate

☑Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

entirely within pp; must cross & fences to access stream; some steep banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. lack of water, steep banks, poison ivy, nasty water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. None

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: CH15

Date: 18 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 120-150	20	7.0	0.60
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH 15

Date: 12 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks
canine
raccoon
turtle
bird
cow

Water gap in DS pic → 300m

0m

Distance	Depth (meters)	
0 meters	0.18	1-4 ULDR@0
30 meters	0.0	
60 meters	0.55	
90 meters	0.70	
120 meters	0.25	
150 meters	0	5-8 ULDR@150
180 meters	0.65	
210 meters	0	
240 meters	0.30	
270 meters	0.0	
300 meters	0.0	9-12 ULDR@300
Average	0.24	

14 Jul 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0/3
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	7.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

feather

non-aq. veg. in stream
denuded banks
steep
vegetated

log metal
foam
plastic
bottles

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: CH15

Date: 12 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☑None
☐Sitting ☐Other: Click here to enter text
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☑Thick vegetation ☐Low bridges ☑None
☐Utility pipe ☑Other (specify): Click here to enter text
watergap @ 0m transect

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other: Click here to enter text
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☑None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property ☑Fence ☐No trespass sign ☐Barge/ship traffic
☑Wildlife ☐Industrial ☑Steep slopes ☐None of the above
☑No public access ☑No roads ☐Other: Click here to enter text
Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☑No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other: Click here to enter text.
Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) POKEY TREES

Click here to enter text. Nasty water - green, scummy, bubbles black when stepped in

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. see prev

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. rural area; pasteurland with cattle upstream

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☑green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☒slight presence DEER	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

2

KH per SR 11 July 14

1415 cst

Start: ~~0315~~ End: 0356

Field Data Sheets RUAA Survey

(complete for each site)

Site: CH16

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/11/2014 / 0315	County Name:
Stream Name: Choctaw Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify):
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): access @ roadway with fence at private property

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Chodaw Creek Site: CH16

Date: 7/11/2014 Time: 0315

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

same as before

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH06

Date: 7/11/2014 Time: 0315

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None 11 Aug 14 ICH for SR

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Chodaw Creek Site: CH16

Date: 7/11/2014 Time: 0315

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH16

Date: 7/11/2014 Time: 0315

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Feces

bird
canine
~~cc~~ feline
coyote

ULDR-1417

Coyote feces 13

Distance	Depth (meters)
0 meters Fish - 1 dumpster carcasses canine - 6	0
30 meters Feline - 6	0
60 meters Armadillo - 7	0
90 meters Water Bird track - 12	0
120 meters	0
150 meters ULDR-8-11	0
180 meters	0
210 meters	0
240 meters	0
270 meters	0
300 meters ULDR 2-5	0
Average	

trash can
trash bag
frog
candy cane

water dependent bird

poison ivy

Tracks

coyote
feline
raccoon

armadillo

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	1

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH16

Date: 7/11/2014 Time: 0315

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: ICI per SR 1 Aug 14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH16

Date: 7/11/2014 Time: 0315

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

dumped fish carcasses, lack of water, fence @ roadway, tracks - coyote, feline, raccoon, armadillo, poison ivy, frogs

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

small cans, bottles, trash bag

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0242 End: 0305

Site: CH 17

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/11/2014 / 0242 CST	County Name:
Stream Name: Choctaw Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☑Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Access @ roadway with fence at private property

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

C

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH017

Date: 7/11/2014 Time: 0242

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

no water, private property with fence

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

access at Roadway w/ fence

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KLparsR 11/18/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey
(complete for each site)

Stream Name: Choctaw Creek Site: CH017

Date: 7/11/2014 Time: 0242

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None [illegible] 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH017

Date: 7/11/2014 Time: 0242

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Choctaw Creek Site: CH017

Date: 7/11/2014 Time: 0242

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks

cattle

frogs

Distance	Depth (meters)
0 meters ULDR-9-12	0
30 meters	0
60 meters	0
90 meters	0
120 meters	0
150 meters ULDR 5-8	0
180 meters	0
210 meters	0
240 meters	0
270 meters	0
300 meters ULDR 1-4	0.40
Average	0.04

feces

bird in creekbed

LCH 06 Jun 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	01

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: KHperSN 1 Mile 14

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☑Fences
- ☐Dams
- ☐Other (specify):
- ☐Log jams
- ☐Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☐None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other:
- ☑None of the above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☐Wildlife
- ☐No public access
- ☐Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☐Steep slopes
- ☐Other:
- ☐Barge/ship traffic
- ☐None of the above

Comments:

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐Other:
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring

Comments:

06 Aug 14
moved elsewhere
KH w/permission from SR

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

frogs, lack of water

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

pieces of shell

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

11 Aug 14
KH per SR

None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

small garbage, bottles, glass

Field Data Sheets RUAA Survey

(complete for each site)

TRIP# 1

Site: IO Ø1

Data Collectors & Contact Information: AM DB	KH 03 Jan 14
Date & Time: 17 MAY 14 1630	County Name:
Stream Name: 1730 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

ADD 1 30M POOL 5M WIDE 1,16 DEED

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☒ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

KH per AM 03 Jan 14 RL

☒ Forest	☐ Urban	☒ Rip rap @ BRIDGE RL
☒ Shrub dominated corridor	☒ Pasture	☒ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

DANGEROUS ACCESS FROM BRIDGE

KH per AM 03 Jan 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): rip rap + steep banks, no fence, pp

6. Dominant Primary Substrate

☒Cobble ☐Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete

@ BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

TOO HARD TO GET TO ; DANGEROUS ACCESS

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

BRIDGE

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

SR .11 per 03 Jun 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

KH per AM
03 Jan 14

only at bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30	5	1.16
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IO01

Date: 17 MAY 14 | Time: 1630-1730

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

THERE NO GPS

TIRES

TIRE TRACKS, CLAY BANK

WHITEBIRD GPS

METAL/ELECTRICAL

PLASTIC BAGS

Distance		Depth (meters)
0 meters	ULDR 1-4	0.37
30 meters		0.14
60 meters		1.16
90 meters		0.3
120 meters		0.26
150 meters	ULDR 5-8	0.2
180 meters		0.33
210 meters		0.26
240 meters		0.1
270 meters		0.11
300 meters	ULDR 9-12	0.2
Average		0.34

ONLY 15

300

0

30 M PER SIDE CHANNEL

LEG

K- 30 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	1.5
Width at the widest point of the stream within 300 meter reach	8.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

RIP RAP/CHAINLINK/REBAR STEEL

DANGEROUS

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☒None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: DANGEROUS	

Comments:

6. Check any indications of human use (Attach photos). 1 SET NO PHOTO

☐Roads	☒RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: YOUNG FEMALE ON 4WHEELER W/ FISHING RODS DROVE BY ON ROAD

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

K11 per Am
C3 June 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Is white bird - unk variety

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

TRACKS / FECES

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☒Abundant	TIRES
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

PLASTICS, CANS / BOTTLES, TRASH BAGS

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: IO #2

Data Collectors & Contact Information:	AM DB K.H 03Jan14
Date & Time: 17MAY14	1530 CST County Name:
Stream Name:	1630 CST
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

KH per AM 03Jan 14

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL KH per AM 03Jan 14

☒	Forest	☐	Urban	☐	Rip rap
☒	Shrub dominated corridor	☒	Pasture	☐	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

VERY STEEP

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

CH per SR 03Jan14

PP

6. Dominant Primary Substrate

BRIDGE

☒Cobble ☐Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

TALL VEG, STEEP BANKS

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KII per SR 039xm 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☐No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

KH per AM
e-30am 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30	8.0	~~30~~ 0.6
Pool 2	29	8.0	0.5
Pool 3	80+	~~70~~ 7.0	0.7
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: IO Ø2

Date: 1530CST Time:

1630CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

HEAR DUCKS
METAL PIPE GPS

TIRES 1CT
CANS/BOTTLES
PLASTIC GPS

(LSAF)
SURFACE DEBRIS GPS
FOLIUM

Distance	04NOV14	Depth (meters)
0 meters ULDR 1-4	300	0.25
30 meters		0.33
60 meters		0.14
90 meters		0.76
120 meters		0.2
150 meters ULDR 5-8		0.1
180 meters		0.59
210 meters		0.15
240 meters		0.51
270 meters		0.43
300 meters ULDR 9-12	0	0.64
Average		0.38

UBS#1

KH 30 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	1.5
Width at the widest point of the stream within 300 meter reach	9.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

PULLS 1 30 8.0
2 29 8.0
3 80 9.0 WIDE

INTERVIEW BIL

LOTS OF TIRES, STEEP BANKS
BIRD DROPPINGS, SHELLS

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: PRIVATE PROPERTIES

3. Check any channel obstructions that apply (Attach photos). AT BRIDGE

☐Culverts	☑Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):	GRASS		

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per AM 03Jun14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

KH per AM 03Jun14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☐none	☒rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☒scum	☐foam	☒debris	☐oil

Other:

AT 2110-300 LEAF & SCUM

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

HEARD DUCKS / GEESE AT SITE

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests DEER / HOG

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☒Abundant	TIRES / COUCH / METAL
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed:

PLASTICS BOTTLES/CANS HIGHWAY TRASH / PAPER

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: ID 03

Data Collectors & Contact Information: AM, DB	KH 30 May 14
Date & Time: 17 MAY 14 1500 CST	County Name:
Stream Name: 1530 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

KH per AM 03 Jun 14

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

KH per SR 03 Jun 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

NO ACCESS; PRIVATE PROPERTY
NO TRESPASSING SIGNS ON NW CORNER
EXTREME DROPS & POISON IVY

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: IO 03

Date: 17MAY14 1500CST Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:
Comments:

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:
Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: LO 3.5

Data Collectors & Contact Information: DBAM	
Date & Time: 15 MAR 0900 CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

1 DRIVE BY SITE CHECK PICTURE DESVOIGNES RD

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
____ Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify):
____ Mowed/maintained corridor	____ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth
☐Bathing
☐Walking
☐Jogging/running
☐Bicycling
☐Standing
☐Sitting
☐Lying down/sleeping
☐Playing on shoreline
☐Picnicking
☐Motorcycle/ATV
☐Hunting/Trapping
☐Wildlife watching
☐None
☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:
Comments:

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:
Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: IO 04

Data Collectors & Contact Information: DBAM	
Date & Time: 17MAY14 1205CST 1310CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☒ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

KH per AM 030ct14 RL

☒ Forest	☐ Urban	☒ Rip rap @ BRIDGE RL
☒ Shrub dominated corridor	☐ Pasture	☒ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): STEEP EMBANKMENT, county ROW

KH per SR 30Oct14

6. Dominant Primary Substrate

☒Cobble ☒Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☒Concrete @BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS; LOGS JAMS / VEGETATION

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

BRIDGE @ OM

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

either SR 530 or 14

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

KLI per AM
03 Jun 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	35-80 45	10	1.5
Pool 2	140-180 ~~100~~ 30 AM	7	>1.5
Pool 3	180-300+ 120+	7	>1.5
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: IO 04

Date: 12 05 CST Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

@ BRIDGE COLUMN

TIRES / PLASTICS

GLASS BOTTLES / CANS

TURTLE

Distance 04 NOV 14	Depth (meters)	
0 meters 300	0.53	BRIDGE
30 meters	0.42	
60 meters	1.15	POOL 1
90 meters	0.13	
120 meters	0.17	
GPS 150 meters	0.52	
180 meters	0.25	
210 meters	0.8	POOL 2
240 meters	0.24	
270 meters	>1.5	
~~GPS~~ 300 meters 0	1.0	
Average	0.61	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	~~2~~ 0.6
Width at the widest point of the stream within 300 meter reach	10.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

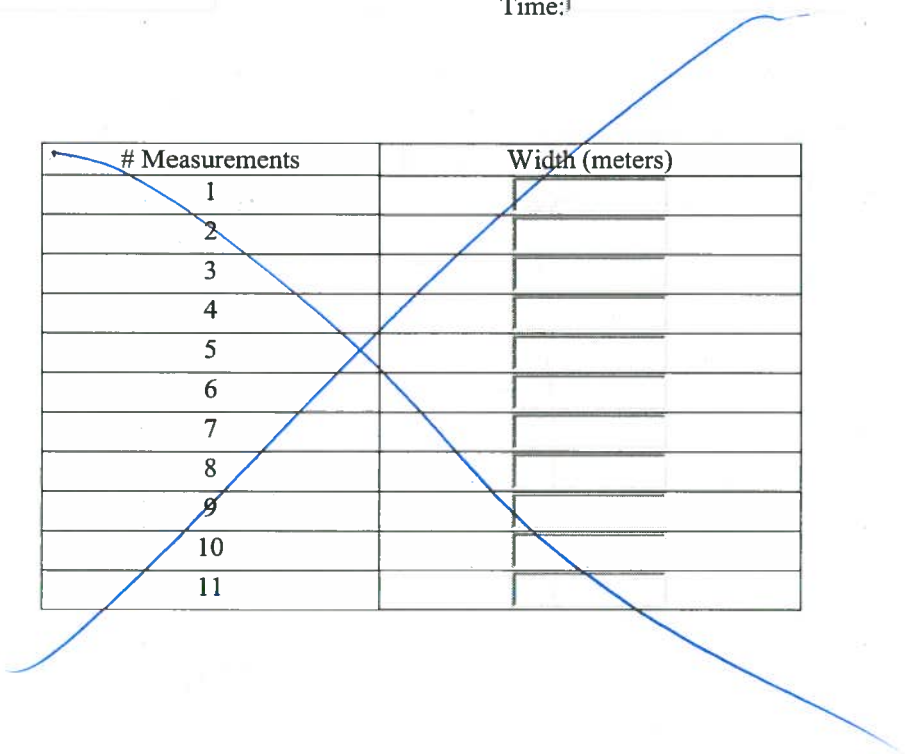
Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	



Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☒Log jams 2	☒Rip rap @ BRIDGE	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) BRIDGE	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per Am 03 Jan 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

sucking mud

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

KH per Am 03 Jan 14

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☒common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☐none	☒rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☐sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds TRACKS BLACK BIRD	☐None	☒slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs TRACKS/POOP	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common TIRES PLASTICS	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

PLASTICS, BOTTLES, CANS, BAGS

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: I005

Data Collectors & Contact Information:	DB AM
Date & Time: 17/04/14 1110 CST	County Name:
Stream Name: 1700 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒ Forest	☐ Urban	☐ Rip rap
☒ Shrub dominated corridor	☒ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☒ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): ROAD CROSSING, STEEP BANKS, PP

Kit per SR 03Jun14

6. Dominant Primary Substrate

☐Cobble ☒Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☒Concrete

Kit per AM 03Jun14

at bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS, LOTS OF VEGETATION

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

ROAD CROSSING/BRIDGE, THROUGH PASTURE

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

KH per AM
03Jan14

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 60-180	120	10	0.7
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: 10 Ø5

Date: 1110CST Time:

1200CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

GPS

	Distance		Depth (meters)	
3.7m	0 meters	ULDR1-4 04NOV14 300	0.17	OBS UPSTREAM
	30 meters		0.5	
7.0	60 meters		0.63	
	90 meters		0.69	
	120 meters		0.63	
7.5	150 meters	ULDR5-8	0.37	
	180 meters		0.38	OBS #1=9 PIPE
	210 meters		0.4	BLACK WATER PIPE
	240 meters		0.1	
	270 meters		0.3	
	300 meters	ULDR10-13 0	0.27	
	Average		~~0.35~~ 0.40	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~2~~ 4.5
Width at narrowest point of the stream within 300 meter reach	2.0
Width at the widest point of the stream within 300 meter reach	10.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

~~Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.~~

~~Photo #s (0 meters) Upstream Downstream Left Bank Right Bank~~

~~Photo #s (150 meters) Upstream Downstream Left Bank Right Bank~~

~~Photo #s (300 meters) Upstream Downstream Left Bank Right Bank~~

RIPRAP/CONCRETE@ BRIDGE GRASS HORSETAIL

GRASS/REEDS/CATTAIL MINNOWS TURBID

STEEP BANKS THICK VEGETATION

TIRE BLACKBIRD-

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☒Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: LOW BLACK PIPE, ACROSS CHANNEL @ BRIDGE

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☒Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☒Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

BRIDGE

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☒None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per AM 03 Jan 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

KH per AM 03 Jan 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Near apartment complex

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☒common	☐abundant	
Algae Cover	☐absent	☒rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds 1	☐None	☒slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild TRACKS	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs TRACKS/ROOT	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: TIRES PLASTIC, CAN / BOTTLE GLASS THICK VEGETATION

Field Data Sheets RUAA Survey

(complete for each site)

TRIP#1

Site: IO Ø6

Data Collectors & Contact Information: DBAM	
Date & Time: 17 MAY 14 1015CST	County Name:
Stream Name: 1100CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

All RL per AM 33 Jan 14

☒ Forest	☐ Urban	☒ Rip rap
☒ Shrub dominated corridor	☐ Pasture	☒ Concrete AT BRIDGE
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☒Difficult EVERYWHERE EXCEPT FOR BRIDGE

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

PP

6. Dominant Primary Substrate

☒Cobble ☒Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

POISON IVY, STEEP BANKS, PRIVATE PROPERTY

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

BRIDGE 300M

KH per SR 030414

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

ICH per AM
03 Jan 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 @ 60-90m	24	7.0	>1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site:

Date: 10/5/CST | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR 9-12	0.18
30 meters	0.1
60 meters	0.6
90 meters	0.16
120 meters	1.2
150 meters ULDR 5-8	0.16
180 meters	0.28
210 meters	0.09
240 meters	0.15
270 meters	0.31
300 meters ULDR 1-4	0.1
Average	0.30

dMay14 300 — 0

DEAD BARK

HORSETAIL

OBSTR #2

OBSTRUCTION/TREE

ALUM CAN

52 lm

KH 30 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.0
Width at narrowest point of the stream within 300 meter reach	1.1
Width at the widest point of the stream within 300 meter reach	7.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

CLEAR/TURBID

STEEP BANKS

BIRD FEATHER/WHITE BIRD

POISON IVY

PLASTICS/TUBES CANS/BOTTLES

STYROFOAM

PAPERS

PIG POOP

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved) BR/DG	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☑None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare HORSETAIL	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☒moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments: 2 WHITE LARGE BIRDS

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☒moderate presence TRACKS RACCOON	☐large presence
Domesticated Pets DOG BARK	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock HORSE	☐None	☒slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☒moderate presence	☐large presence

Comments POOP / TRACKS

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common TREES 20+	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

PLASTICS TV GARBAGE BAG ~~BACK~~ CANS/BOTTLES PAPERS PLASTIC SACKS

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #1

Site: IO 07

Data Collectors & Contact Information: DBAM	
Date & Time: 17MAY14 0915CST 1010CST	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐	Forest	☐	Urban	☐	Rip rap
☐	Shrub dominated corridor	☒	Pasture RL	☐	Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):	
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank		

1611 per AM 03 Jun 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): STEEP ROW, NOT MOWED

6. Dominant Primary Substrate

☒Cobble ☐Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

TALL GRASS, STEEP BANKS, THICK MUD

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

ROAD ROW

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 03Jun14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

SAME

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

KHper ~~SR~~ Am
03 Jan 14

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters. NO SUBSTANTIAL POOLS

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: 0915 CST Time:
1010 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

GPS

UPHIGH

STEEP

GPS

HIWAY TRASH RIPRAP/CONCRETE

TIRE

GPS

AMAMAN

300

ULDR 6-9

ULDR 1-10

UPPER COLUMN TOO MUCKY

ACCESS FROM CONCRETE BANK

HORSETAIL RIVER 5

Distance	Depth (meters)
0 meters	?
30 meters	?
60 meters	?
90 meters	0.7
120 meters	0.4
150 meters	0.2
180 meters	0.35
210 meters	0.29
240 meters	0.05
270 meters	0.04
300 meters	0.1
Average	0.27

JCH 30 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.0
Width at narrowest point of the stream within 300 meter reach	0.1
Width at the widest point of the stream within 300 meter reach	~~2.0 4.0~~ 10.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☐None
☐Sitting	☒Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☒Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☒Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

IC H per AM 03Jan14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Sucking mud

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

NONE OBSERVED

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

IC H per AM 03Jan14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☒common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild TRACKS	☐None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs DEER/HOG	☐None	☒slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☒Common	☐Abundant

Briefly describe the kinds of garbage observed: AT BRIDGES

HIGHWAY TRASH – TIRE

BOTTLES PLASTIC/GLASS CANS

PAPER/FOAM

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 1

Site: IO 08

Data Collectors & Contact Information: DB AM	
Date & Time: 17/04/14 0815CST	County Name:
Stream Name: 0900 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

KH per AM 03 Jan 14

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒ Forest	☐ Urban	☐ Rip rap
☒ Shrub dominated corridor	☒ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☒Difficult

EVERY WHERE OTHER THAN AT ROAD CROSSINGS STEEP BANKS

KH per SR 03 Jan 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

PP

6. Dominant Primary Substrate

☒Cobble ☒Sand ☒Silt ☒Mud/Clay ☒Gravel ☐Bedrock ☒Rip rap ☒Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS, POISON IVY,

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

ROAD CROSSING @ 300 m & UPSTREAM OF 0 m

KC11 per SR 03 Jun 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

KH per AM
~~03 Jun~~
03 Jun 14

No

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters. NO SUBSTANTIAL POOLS

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: 081SCS5T- Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

STEEP BANKS
POISON IVY
CANS
STEEP BANK GRASS/ALGAE
PLASTIC
BEAVER HOLE 5
TRASH BAGS, TV, TOILET
CONCRETE, RIPRAP

Distance		Depth (meters)
0 meters	ULDR 11-14	0.11
30 meters		0.06
60 meters		0.05
90 meters		0.36
120 meters		0.31
150 meters	ULDR 7-10	0.22
180 meters		0.20
210 meters		0.19
240 meters		0.05
270 meters		0.09
300 meters	ULDR 1-4	0.15
Average		0.16

300

0.3

WIRE METAL I BEAM
TIRE
SOME ALGAE
HOG POOP & TRACK 6
CONCRETE BIRDBATH

KH 30May14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.4
Width at narrowest point of the stream within 300 meter reach	0.3
Width at the widest point of the stream within 300 meter reach	~~3.3~~ 4.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☒None
☒Utility pipe	☐Other (specify):			

BLACK PIPE DOWNSTREAM 300 M

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) BRIDGE	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☒Private property BOTH SIDES	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments: NONE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) DIFFICULT ACCESS AT BRIDGE STEEP/UNSTABLE

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). No

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For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare	☐common	☐abundant	
Algae Cover	☐absent	☒rare	☐common	☐abundant	
Odor	☐none	☒rare SEDIMENT	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☒sludge	☒solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☒scum RARE	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild TRACKS - RACCOON	☒None	☒slight presence	☐moderate presence	☐large presence
Domesticated Pets	☒None	☐slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☒None	☒slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☒Abundant AT BRIDGE

CONCRETE BIRD BATH TIRE METAL I BEAM WIRE

Briefly describe the kinds of garbage observed:

TRASH BAGS, TV, TOILET CANS/BOTTLES PLASTIC/GLASS

Field Data Sheets RUAA Survey

(complete for each site)

TRIP 1

Site: ~~1~~ TO 09

Data Collectors & Contact Information: DBAM	
Date & Time: 17MAY14 0700 CST	County Name:
Stream Name: 0900 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒	Forest	☐	Urban	☒ Rip rap AT 300m/BRIDGE
☒	Shrub dominated corridor	☐	Pasture	☐ Concrete
☐	Herbaceous marsh	☐	Row crops	Other (specify):
☐	Mowed/maintained corridor	☐	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP

Upper SK 03 Jun 14

6. Dominant Primary Substrate

☐Cobble ☒Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap ☐Concrete

AT BRIDGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

STEEP BANKS, DEEP THICK MUD, POISON IVY

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

ROAD CROSSING / STEEP BANKS

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

Cl per SR 03 Jan 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☒Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☒physical characteristics of the water body ☒limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

SAME

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

Upper AM 23 Jun 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

P. 1

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters. NO POOLS

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time: 0720 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance		Depth (meters)	
~~0~~ meters	150 5-8	150	0.03
~~30~~ meters	180		0.02
~~60~~ meters	210		0.06
~~90~~ meters	240		0.03
~~120~~ meters	270		0.15
~~150 meters~~	ULDR 1-4	300	0.16
~~180~~ meters	120	120	0.021
~~210~~ meters	90		0.06
~~240~~ meters	60		0.48
~~270~~ meters	30		0.04
~~300~~ meters	0 9-12	0	0.05
Average	ULRD		0.10

ICH 30 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.0
Width at narrowest point of the stream within 300 meter reach	0.14
Width at the widest point of the stream within 300 meter reach	3.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos). AT BRIDGE

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☒None OTHERWISE NONE
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) BRIDGE	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos). NONE

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per AM 03 Jan 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

treacherous approach to water b/c rip raps + heber

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) NONE OBSERVED

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

ICH per AM 03 Jan 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Residential area nearby

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☒scum	☐foam	☐debris	☐oil

Other: RARE @ 2/10

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☒None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☒slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☒None	☐slight presence	☐moderate presence	☐large presence

Comments: TRACKS NONE

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	1 TIRE
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	

Briefly describe the kinds of garbage observed: BOTTLES/CANS PLASTIC

1430/17MAY14

Field Data Sheets RUAA Survey

(complete for each site)

NO ONE OBS TRIP 1

Site: IO

Data Collectors & Contact Information: DBAM	
Date & Time: 16 MAY 14 1840 CST	County Name:
Stream Name: 1920 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

300 – 150 m NO MORE ACCESS THRU DOWNSTREAM / OTHER SIDE OF ROAD NO TRESSPASSING PURPLE FENCE & FENCE

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☒ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒ Forest	☐ Urban	☐ Rip rap
☒ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☒ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): BIG PIPE CULVERTS AT ROAD WITH RIP RAP AND BARB WIRE FENCE TO ROAD; STEEP BANKS

6. Dominant Primary Substrate

☒Cobble ☐Sand ☒Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

FATHER / FATHER IN LAW SAID WATCH OUT FOR DOGS

DOWNSTREAM ON ROAD – NO TRESSPASSING PURPLE PAINT

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☒Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

LACK OF WATER / OVERGROWN BANKS WITH THORNY TREES STREAM BED IS DIFFICULT TO WALK IN (MUD SUCKS YOU IN)

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

KH per SR 03 Jun 14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

DIFFICULT ACCESS, PRIVATE FENCED PROPERTY TO CULVERTS

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☒physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: NO/LITTLE WATER

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

LACK OF WATER; STEEP BANKS; TREACHEROUS CONDITIONS (MUD, ROCKS, THORNS)

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____ NO ACCESS

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters. NO SUBSTANTIAL POOLS

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

4 ADDITIONAL PICTURES TAKEN DOWNSTREAM OF ROAD/BRIDGE TO SHOW CONDITIONS THERE BUT NO TRESPASSING SIGN (PURPLE PAINT)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	0
180 meters	0.1
210 meters	0
240 meters	0.25
270 meters	0
300 meters	0
Average	0.06

NO ACCESS

DOGS

DIFFICULT ACCESS

STEP BANKS & VEGETATION

MUD / CLAY / ROCKS

GLASS / PLASTIC

ALUMINUM CAN

TIRES

AT BRIDGE/ROAD DOWNSTREAM 9-12

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	2.6

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments: CULVERTS @ ROAD

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☒Fences ALONG	☒Log jams	☒Rip rap AT ROAD	☐Water control structure
☒Barbed wire	☐Dams	☒Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☒Private property	☒Fence BOTH SIDES OF ROAD	☒No trespass sign PURPLE PAINT DOWNSTREAM LAND OWNER	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

LACK OF WATER; DOGS @ HOUSE / LANDOWNER TREES

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

None

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☒None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets DOGS	☐None	☒slight presence	☐moderate presence	☐large presence
Livestock	☒None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☒None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☒None	☐Rare	☐Common	☐Abundant

TIRES BOTTLES/CANS/PLASTIC/GLASS ALUMINUM

Briefly describe the kinds of garbage observed:

TOO THICK FOR GARBAGE TO GET THRU BRUSH

TRIP 1

Field Data Sheets RUAA Survey

(complete for each site)

1420/17 MAY 14 DRIVE BY 1 PIC NO ONE OBS

Site: IO 11

Data Collectors & Contact Information: DBAM	
Date & Time: 16 MAY 14 1745 CST	County Name:
Stream Name: 1830 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

0 – 180 M NO MORE ACCESS THRU BRUSH PAST THAT

KH per AM 11 Jul 14 + 16 Jul 14

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☒ dry ☒ no flow ☐ low ☒ normal ☐ high ☐ flooded

PUDDLES ONLY

2. Check the following stream type that applies on the day of the survey:

☒ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

KH per AM 03 Jun 14

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☒ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

RL

4. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☒ Moderately difficult ☐ Difficult

KH per AM 03 Jun 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP, fence

6. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☒ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

ICH per AM 03 Jan 14

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Dense ves.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

PP, fence, 90m outside of fence

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

-H per SR 03 Jan 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

Dense veg.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Dense veg.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

PP, fence

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Black locus trees - thorns go through boots & skin

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance		Depth (meters)
0 meters ULDR 1-4	300	0
30 meters		0
60 meters		0
90 meters		0
120 meters		0
150 meters ULDRS-8		0.03
180 meters ULDR9-12	120	0.04
210 meters		
240 meters		
270 meters		
300 meters		
Average		

ANDY

CULVERT

BEER

CULVERT

TOO DENSE TOO MANY THORNS

THORN THRU BOOTS

THORN IN ARM

ROW NOT MAINTAINED

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

KH per AM 03 Jun 14

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

QUICKSAND SEDIMENT; THORNY TREES & BRIARS

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

ROW NOT MAINTAINED AT ALL

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant		
Algae Cover	☒absent	☐rare	☐common	☐abundant		
Odor	☒none	☐rare	☐common	☐abundant		
Color	☒clear	☐green	☐red	☐brown	☐black	
Bottom Deposit	☐sludge	☐solids	☒fine sediment	☐none	☐other	
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil	

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☒None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

BOTTLES AND PLASTICS

Field Data Sheets RUAA Survey

(complete for each site)

Trip #2

Site: Click here to enter text. I-20A

Data Collectors & Contact Information: Click here to enter text. KM JG KH	
Date & Time: Click here to enter text. 6 Jun 17 @ 1745 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

Add 130 pool
5m wide
1.1 deep

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	____ Urban	____ Rip rap	
____ Shrub dominated corridor	____ Pasture	____ Concrete	
____ Herbaceous marsh	____ Row crops	Other (specify): Click here to enter text.	
____ Mowed/maintained corridor	____ Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. See page 8

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

RP, no fence
steep banks
thick veg. on banks
poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ICO1

Date: 16 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

poison ivy
steep banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30	3	1.13
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: I001

Date: 11 Jul 14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.4
30 meters	0.03
60 meters	1.13
90 meters	0.45
120 meters	0.10
150 meters	0.10
180 meters	0.00
210 meters	0.30
240 meters	0
270 meters	0.20
300 meters	0.34
Average	0.29

bridge 300 GROWTH

rocks raccoon canine pig 4wheeler

1-4 ULDR@0

5-4 wheeler tracks @90

6-9 ULDR@150

10-13 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	7
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	6 ~~66~~

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

treeclevers rocky, rebary, steep descent

live crowdds
dead crowdds
shells
aquatic veg
rabbit
pig feces

bankscum
algae

couch
fencing
tires
riprap
scum
cans, plastics, bottles
sink
fan

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: ICC1

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text.	

Comments: Click here to enter text. thick bank veg.

6. Check any indications of human use (Attach photos).

☐Roads	☑RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. seepage S

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area, pasture land channel in forested corr. dor

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text. jack rabbit

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

see page 5

Trip#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. IC02

Data Collectors & Contact Information: Click here to enter text. AM 00 KH	
Date & Time: Click here to enter text. 11 Jul 14, 1705 est	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow 0.0 ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

pp, no fence, steep banks, thick veg. on banks

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: 1007

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 @760 ~~3.5~~	31.5	5.2	1.1
Pool 2	27	6.5	1.1
Pool 3 300a-300b	30	5	0.5
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

pool 3 continues past 300+

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: I002

Date: 11 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.10
30 meters	0.25
60 meters	0
90 meters	0.35
120 meters	0
150 meters	0
180 meters	0.20
210 meters	0
240 meters	0.30
270 meters	0.16
300 meters	0.35
Average	0.16

300

0

tracks
raccoon
deer
turtle
canine

1-4 ULDR @ 0
logjam too

5-8 ULDR @ 150

9-12 ULDR @ 300a
13-16 ULDR @ 300b
17 - track

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	6.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

bottles, cans, plastics

shells
dead crawdads
live "

heard hog @ 300

oil
shingle
rip-rap
tires
old pipes
bucket
~~rebar~~ rebar
cattle panel

couch

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: FCO7

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☑Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other:Click here to enter text.	

Comments:Click here to enter text. thick bank veg.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None excessive

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. Yes, see prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. I003

Data Collectors & Contact Information: Click here to enter text. AM 99 CH	
Date & Time: Click here to enter text. 11 Jan 14 1654 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

photos only - 2

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

No access; PP; No trespass signs on NW corner
extreme drops & poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☐None
☐Sitting ☐Other: Click here to enter text.
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)
Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)
Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).
Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. I003.S

Data Collectors & Contact Information: Click here to enter text. AM gg KH	
Date & Time: Click here to enter text. 11 Jul 14, 1639 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

photos only - 3 NO ACTIVITY

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Suburban area/RURAL

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☐No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☐None
☐Sitting ☐Other: Click here to enter text.
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☐No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☐Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☐Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:Click here to enter text.
Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☐No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:Click here to enter text.
Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

TRIP #2

(complete for each site)

Site: TOCCH

Data Collectors & Contact Information: AM SS MH	
Date & Time: 11 JULY 14 1550 CST	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

AM ☒ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☒ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture	BRIDGE	Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. EXTREMELY STEEP BANKS W/ THICK VEG.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

NO PARKING AREA

SLICK MUD
POISON IVY
EXCESSIVE GARBAGE

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: 10 of 24

Date: | Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. SEE PAGES 1, 5

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. SEE PAGES 1, 5 NO FENCE, PP

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: IO ØV

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

SEE PREV

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. SEE PREV

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

SEE PREV

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

HARD PACKED SLICK MUD W/ GAPING HOLES UNSEEN

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: IOH

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____ FERROT

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	35	10	1.20
Pool 2	30	7	>1.5
Pool 3	120+	7	>1.5
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: RACCOON Site: ID #21

Date: 04 NOV 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters BRIDGE 300	0.40
30 meters	0.60
60 meters	1.20
90 meters	0.10
120 meters	0.18
150 meters	0.05
180 meters	0.20
210 meters	0.70
240 meters	0.20
270 meters	>1.5
300 meters * 0	1.0
Average	0.56 KH 29 Jul 14

1-4 WOOD

POOL 1 35-80 (45M LONG) 10 WIDE

LOG JAM 5

LOG JAM 6

7-10 WOOD

POOL 2

FORGOT

* numbers from previous trip

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	0.2
Width at the widest point of the stream within 300 meter reach	10.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

PLASTICS, BOTTLES, CANS TIRES

ABANDONED POOL

STEEP BANKS

DENSE VEG ON BANK

SHELLS

AQUATIC VEG

BABY CARRIAGE

4 PIECES FURNITURE

BAGS OF GARBAGE

BEAVER DAM @ 90

BOXES + CARPETROLL

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name:

Site: TO 04

Date:

Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: IO Ø4

Date: Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☒None
☐Sitting ☐Other: Click here to enter text.
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☒Log jams 2 ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☐Utility pipe ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other: Click here to enter text.
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☐None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☒Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments: Click here to enter text

KH 29 Jul/14

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☒Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☒Wildlife ☐Industrial ☒Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other: Click here to enter text.
Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☒No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☒Other: Click here to enter text. Graffiti
Comments: Click here to enter text.

KH 29 Jul/14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. SEE PHOTOS

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). BRUSHY CORRIDOR

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☒common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☒green	☐red	☒brown	☐black
Bottom Deposit	☐sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks RACCOON ☒Fecal droppings BIRD ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☒Common	☐Abundant
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant
Bank garbage	☐None	☒Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #2

Site: Click here to enter text. TCOES

Data Collectors & Contact Information: Click here to enter text. KM, JT, KH
Date & Time: Click here to enter text. 10/21/14 1SCC cst County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RC Forest	Urban	X Rip rap @ BRIDGE
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text. Setback
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. dense veg. on banks, steep slopes, slick mud

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

No fence
HWY access

aquatic veg.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Limiting - see pages 1, 5

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. see pages 1, 5

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: JCCS

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

See pages 1, 5

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See pages 1, 5

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Slick mud

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: ICCS

Date: 11 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters 300	0.16
30 meters	0.3
60 meters	0.65
90 meters	0.70
120 meters	0.60
150 meters	0.30
180 meters	0.08
210 meters	0.40
240 meters	0.09
270 meters	0.30
300 meters 0	0.22
Average	0.35

1-4 ULDR@0
5 - pipe obstn.
6 - stormdrain@>90
7-10 ULDR@150
11-14 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5 ~~8~~
Width at narrowest point of the stream within 300 meter reach	.20 ~~5.85~~ .2
Width at the widest point of the stream within 300 meter reach	8.0 ~~6.5~~

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

scummy, boney, foam
aquatic veg
lil fishes
shells

riprap
bottle
old utility pipe
across stream @ <30

pipe @ 180
11 @ 210

mattress

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: ICOS

Date: 11Jul14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☑Utility pipe 3	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text. thick veg on banks

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Unnatural environment, garbage in stream

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. Yes, see prev.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Suburban area, apartments 300 yrds away w/no fence

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☑None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

cans, bottles, plastics

mia theiss

Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: Click here to enter text. TOC6

Data Collectors & Contact Information: Click here to enter text. AM, JS, KH	
Date & Time: Click here to enter text. 7/14/22, 1422 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor	RL	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. see below

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

PP, no trespass signs
steep banks w/ dense veg.
poison ivy
rip rap @ bridge
fence does not block water body access (not continuous to bridge guard)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See page 1

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See page 1

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ICC 6

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

See page 1

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See page 1

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See page 1

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: ICC6

Date: 11 Jul 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

canine tracks
raccoon "

Distance	Depth (meters)
0 meters 300	0.20
30 meters	0.15
60 meters	0.60
90 meters	0.18
120 meters	1.30
150 meters	0.15
180 meters	0.35
210 meters	0.12
240 meters	0.10 4.3
270 meters	0.25
300 meters bridge	.01
Average	0.31

10-crawdad
6-9 UCDR@150
2-5 UCDR@300
1-Sign

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.5
Width at narrowest point of the stream within 300 meter reach	0.4
Width at the widest point of the stream within 300 meter reach	6 ~~5.6~~ 6

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

poison ivy
logjam@300
@bridge riprap
tire
fish carcasses
flip flop
road trash (plastics, bottles, cans)

frogs
bird poo
aquatic veg.
tires - commonish
little fish
crawdad
plastics - bottles + bags
cans

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: JC06

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Poison ivy

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. frogs, crawdad, aquatic vegetation, little fish

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Suburban area, forested

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☐None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #2

Site: IC07

Data Collectors & Contact Information: AM, JJ, KH	
Date & Time: 11 Jan 14 1221 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
RL Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. 4 HWY bridges over reach, steep banks, thick veg. in channel + on banks, low water level, uninviting water, largely a HWY median area

6. Dominant Primary Substrate

☐Cobble ☑Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

bridge on HWY access road

see page 8 5

No fences

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See page 1

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See pages 1, 5

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ICC7

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

See prev

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See prev

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

bad visibility when walking

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: I007

Date: 11 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks
~~fe~~line
raccoon

Distance		Depth (meters)
0 meters	~~bridge~~ 300	0.0
30 meters		0.0
60 meters		0.75
90 meters		0.80
120 meters		0.20
150 meters		0.16
180 meters		0.01
210 meters		0.10
240 meters		0.07
270 meters	bridge	0.05
300 meters	~~bridge~~ 0	0.20
Average		0.21

0 NOVA

10-13 ULDR@0

6-9 ULDR@150

2-5 ULDR@300
1 snake

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2 ~~0.14~~ 2
Width at narrowest point of the stream within 300 meter reach	0 0.14 ~~1.5~~ 5.6
Width at the widest point of the stream within 300 meter reach	8.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

+ treacherous descent b/c unseen drop offs

sucking mud

largely a HW/median area

scummy/algae surface
aquatic veg - horsetail reeds
cattails
+ more

snake

tire
typical road trash

thick veg in channel

dewberry bushvines (thick)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: ICC7

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text	

Comments: Click here to enter text. thick veg.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Fear of traffic

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. aquatic veg., crawdad huts

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☑abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☑foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings (bird) ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

tire, typical road trash (bottles, cans, plastic)

Field Data Sheets RUAA Survey

(complete for each site)

TRIP #2

Site: IC08 Click here to enter text.

Data Collectors & Contact Information: AM, JJ, KH Click here to enter text.	
Date & Time: 11 Jul 14, 11:47 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
RL Shrub dominated corridor	RL Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. pp, but no fence, steep banks w/ dense veg. veg. in channel

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

only access point is underneath bridge, all else is too steep

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. steep bank, dense bank veg., lack of water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. No fence @ bridge, but pp

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IC08

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text. None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: IC08

Date: 11 Jul 14 Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks
raccoon
deer
canine

Distance	Depth (meters)	
0 meters	300	0
30 meters		0
60 meters		0
90 meters		0
120 meters		0
150 meters		0.05
180 meters		0
210 meters		0
240 meters		0
270 meters		0
300 meters bridge	0	0
Average		0.005

1-4 ULDR@300

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	0.50 s

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

@bridge
bed
bags of garbage
rip-rap
wood
chain
bottles
bricks
wood debris

nes. in channel
poison ivy
2 deer
bird bath
crowded nuts
red tailed hawk
cattails

bricks
broken glass

tire
cans
w/r went cover
rip rap

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: IC08

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text.	

Comments: Click here to enter text. dense bank veg.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. banks almost 90°

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. gallons, crawdad huts

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. black utility pipe DS of reach

Rural area, wooded corridor

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

2 deer

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

TRIP 2

(complete for each site)

Site: I009

Data Collectors & Contact Information: AM, JJ, KH	
Date & Time: 11 Jul 14, 1104 cst	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☑ dry ☐ no flow ☐ low ☐ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	RL Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

Treacherous descent on rip rap & metal of steep banks, fence block on 1 side of DS side of the bridge. PP

6. Dominant Primary Substrate

☐ Cobble ☑ Sand ☐ Silt ☑ Mud/Clay ☑ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. steep banks, rocks in channel, lack of water, treacherous descent

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ICC9

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None The treacherous descent on steep banks of riprap + metal

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: ICC9

Date: 11/24/14 | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

tracks raccoon canine hog

	Distance	Depth (meters)	
US	0 meters	0	9-10 ULDR@0
	30 meters	0	
	60 meters	0	
	90 meters	0	
	120 meters	0	
	150 meters	0	
	180 meters	0	5-8 ULDR@150
	210 meters	0	
	240 meters	0	
	270 meters	0	
DS	300 meters bridge	0	1-4 ULDR@300
	Average		

bottle, bricks (can in channel (trash debris?)

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	Non water
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	1

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

riprap + metal @ treacherously steep descent

yes in channel
channel width (5m)
aquatic veg - cattails
steep banks - some denuded
crossed huts
fence blocking access on only 1 side of DS side of bridge

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: ICC9

Date: 11 Jul 14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None excessive

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. aquatic vegetation, crawdad huts

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area, shrub/forest corridor

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other: No water

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Trip #2

Field Data Sheets RUAA Survey

(complete for each site)

Site: ECR10

Data Collectors & Contact Information: AW SSKH
Date & Time: 8/7/14 10:30 CST County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☑dry ☐no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R	Forest		Urban		Rip rap
RL	Shrub dominated corridor	RL	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. fenced access to channel, purple paint on fence upstream channel almost unseen from road

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. lack of water, narrow channel (2.5m ave), culvert under road

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. See prev.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IC10

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text

See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: I010

Date: 11 Jul 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

	Distance	Depth (meters)	
US	0 meters	0	
	30 meters	0	9-10-13 ULDR@0
	60 meters	0	
	90 meters	0	
	120 meters	0	
	150 meters	0	6-9 ULDR@150
	180 meters	0	5 low water x ings @180
	210 meters	0	
	240 meters	0	
	270 meters	0	
DS	300 meters @ road	0	1-4 ULDR@300
	Average	0	

turkey feather
raccoon tracks
cow feces + tracks
beer bottle, plastic water bottle

tires
bottles
some riprap
bridge

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	No water
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	1

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

easily by-pass stream b/c poor visibility from road
culvert under road (5')
purple fence @ 300 + ds
fencing on both sides of road (5-strand or better)
channel only ~~2.4~~ 2.5 m wide avg.
wildlife trail @ < 60

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IC10

Date: 11 Jul 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: culvert under road

3. Check any channel obstructions that apply (Attach photos).

☑Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☑Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☐ No roads	☑Other: Click here to enter text. purple paint	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. None extra

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. None

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area; pastureland

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text. No water

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks raccoon ☐Fecal droppings bird, cattle ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. tires, bottles, cans, rip rap

Field Data Sheets RUAA Survey

(complete for each site)

CHANGE 16MAY14 (TRIP#1) TO NO FLOW FROM NORMAL TRIP#2

Site: TO Click here to enter text.

Data Collectors & Contact Information: AM, JJ, KH Click here to enter text.	
Date & Time: 11 Jul 14, 0957 cst Click here to enter text.	County Name: Click here to enter text.
Stream Name: from Ore Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☑ dry ☐ no flow ☐ low ☐ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
RL Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text. Right of way - unmaintained section
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☑ Easy ☐ Moderately easy ☐ Moderately difficult ☐ Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. channel is in right of way for power lines fence @ 0m transect (120m downstream of road)

6. Dominant Primary Substrate

☑ Cobble ☐ Sand ☑ Silt ☐ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

beer cans, bottles @ road
gloves
pile of old concrete mix

grasses + thick veg in channel + brush + logs

TS. culvert under road

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Brush, thick veg in channel, lack of water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Yes, the channel is in right-of-way w/no fences by road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IC11

Date: 11 Jul 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation See prev.

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

None

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream 120 Downstream 120 Left Bank 120 Right Bank 120

Photo #s (300 meters) Upstream — Downstream — Left Bank — Right Bank —

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: IC11

Date: 11 Jul 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

fence @ 0 transect

Distance	Depth (meters)
0 meters 300	0
30 meters	0
60 meters	0
90 meters	0
120 meters read 180	0
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

1-4 ULDR@0

5-8 ULRR@150

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	No water
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: IC11

Date: 11 Jul 14 | Time:

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. culvert under road

3. Check any channel obstructions that apply (Attach photos).

☑Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☑Other (specify): Click here to enter text. the road w/ culvert			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☑None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. No extra but vegetation

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. None

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. Rural area

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text. No water

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☐Bird nests

bird

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Glove, road trash, concrete mix

Field Data Sheets RUAA Survey

(complete for each site)

Site: ~~BA~~ MUC1

Data Collectors & Contact Information: SR, ICH, MG	
Date & Time: 19 June 14, 0800 CST	County Name:
Stream Name: Mud Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☐normal ☑high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP, locked gate, dense ves & slick banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

See prev.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

pp, locked gate, miles into pp

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? yes. Boat ramp /Ab. parking area on AR 9Jul14 AK Hwy 41 / TX Hwy 5. AK side of Red River

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MWC1

Date: 19 Jun 14 | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

See prev.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

See prev.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

See prev.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU01

Date: 19 Jan 14 Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters) width (Approximate) due to thick veg.
0 meters	
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	~~>1.5 31m~~
180 meters	~~>1.5 18.5~~
210 meters	>1.5 18.0
240 meters	>1.5 20.5
270 meters	>1.5 31m
300 meters	>1.5 18.5m
Average	

19-22 ULDR@ 150
23-snakeskin
24-26 blue heron

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	20
Width at narrowest point of the stream within 300 meter reach	18
Width at the widest point of the stream within 300 meter reach	31

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream ✓ Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

tracks / nos

bird feces

heron

aquatic veg.

oil

snakeskin

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MUC1

Date: 19Jun14 Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: 1

Date: | Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Dense veg

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Site within 1 mile of Red River, recent rain causing Red River to back up into Mud Creek

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☑oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

Start- 1745 CST End- 1850 CST

Site: Click here to enter text. MU02

Data Collectors & Contact Information: Click here to enter text. AM JJ KB	
Date & Time: 18 June 14	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban		Rip rap
	Shrub dominated corridor	RL ✓	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

ICH per AM 20 Jul 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. steep slope to bank

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

pp
poison ivy
deep, mucky

ICH per AM 20 Jul 14

entirely within pp (>1 mi from road)

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU02

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text. steep banks and private property

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

KH per SR 09/24/14

No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU02

Date: | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). steep banks, private property

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as above

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Steep banks
deep, muddy

Kltper AM
08 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MM02

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1 300+M	0-		
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU02

Date: _____ Time: _____

03NOV14

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

oily, fishy
hog tracks
old shoe
canine tracks
water plants
raccoon tracks
blue herrin

Distance	Depth (meters)
0 meters 300	1.2
30 meters	1.1
60 meters	1.2
90 meters	1.3
120 meters	.6
150 meters	.5
180 meters	.7
210 meters	.8
240 meters	1.2
270 meters	1.3
300 meters 0	0,5
Average	0,95

UDLR 1-4 300
5-old bridge

UDDR 6-9 150 w/ boat
10-shoe

ULR 0

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	10
Width at narrowest point of the stream within 300 meter reach	4.3
Width at the widest point of the stream within 300 meter reach	12

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU02

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU02

Date: Time:

KH per AM 03 Jul 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. hog tracks, ~~raccoon tracks~~, ~~blue herin~~, ~~canine tracks~~

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. water plants

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. old shoe on bank, possible flood debris

KH per AM 03 Jul 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☑oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☑slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

KH per AM, JJ, KB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

small trash, cans, boot, metals

Field Data Sheets RUAA Survey

(complete for each site)

Start-1630 CST End-1725 CST Site:Click here to enter text. MU03

Data Collectors & Contact Information:Click here to enter text. AM JJ KB	
Date & Time:18 June 14	County Name:Click here to enter text.
Stream Name:Click here to enter text.	
Segment No. or nearest downstream Segment No.:Click here to enter text.	
Description of Site:Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☑ Urban	☐ Rip rap
☐ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):Click here to enter text. bridge @ roadway and private access by landowner by waterbody.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

ICH per AM on Jul 14

fence + watergap some steep banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU03

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

KH pw SP 09/21/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU03

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

mucky @ bridge

ICH per AM
on 2ul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU03

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	270–200	16	1.5+
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU03

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

coon tracks
crawfish bones
bird feces
cattle manure
cattle tracks
algae

Distance	Depth (meters)
0 meters	0.8
30 meters	1.4
60 meters	.2
90 meters	.45
120 meters	.3
150 meters	.5
180 meters	.45
210 meters	.55
240 meters	1.5
270 meters	1
300 meters	1
Average	0.74

ULDR -10-13 w/ bridge

ULDR-6-9

log jam -5

ULDR-1-4

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.5
Width at narrowest point of the stream within 300 meter reach	3
Width at the widest point of the stream within 300 meter reach	16

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU03

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. bridge build by landowner by creek

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☑Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☑Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU03

Date: | Time:

KH per AM 08Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. raccoon tracks, cattle track, cattle manure, ~~crawfish~~ bones, algae, bird droppings

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text. algae

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

ICH per AM, JJ, ICB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

trash at O

Field Data Sheets RUAA Survey

(complete for each site)

Start 1538 CST End 1630 CST Site: Click here to enter text. MU04

Data Collectors & Contact Information: Click here to enter text. AM, JJ, KB ICH 08Jul14	
Date & Time: 18 June 14 / 1538	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge @ roadway w/ forest in abundance

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

steep slopes
single public access is bridge

KH per AM
08Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU04

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

KH for SR 09/30/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU04

Date: | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

~~same~~ river or stream banks overgrown

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

snakes, mucky, deep, difficult travel

H_2S odor

KH per Jm

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MQ04

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (~~300~~ 240 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	~~60~~-260	10	1.3
Pool 2	210		
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU04

Date: | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	.7
30 meters	1
60 meters	1.2
90 meters	1.2
120 meters	1
150 meters	.2
180 meters	0
210 meters	.5
240 meters	1.3
270 meters	
300 meters	
Average	0.79

03 NOV 14

300

60

snake
oily water
raccoon tracks
feces
hog tracks
algae, waterplants

ULDR- 1-4 300

ULDR-5-8 150

a-obstruction

ULDR -10 -13 60

KH 03 Jul 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	0.0
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU04

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text	

Comments: Click here to enter text

dense vegetation
snakes

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU04

Date: | Time:

KH per AM 03 Jul 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. snakes, hog tracks, ~~raccoon tracks~~, overgrown vegetation around creek water body

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. No KH per AM 03 Jul 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common H_2S	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☑other soft sucking mud
Water Surface	☐clear	☑scum	☑foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☑moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments Click here to enter text. KH per AM, JJ, KB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

cans, glass, metal

Field Data Sheets RUAA Survey

(complete for each site)

Start 1538 CST End 1630 CST Site: Click here to enter text. MU04

Data Collectors & Contact Information: Click here to enter text. AM, JJ, KB ICH 03Jul14	
Date & Time: 18 June 14 / 1538	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☑ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge @ roadway w/ forest in abundance

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

steep slopes
single public access is bridge

KH per AM
03 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU04

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

No

KH per SR 6/21/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU04

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

~~same~~ river or stream banks overgrown

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

snakes, mucky, deep, difficult travel

H_2S odor

KH per Jm

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MQ04

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☒Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (~~300~~ 240 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	~~60~~ - 260	10	1.3
Pool 2	210		
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU04

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance 03NOV14	Depth (meters)
0 meters 300	.7
30 meters	1
60 meters	1.2
90 meters	1.2
120 meters	1
150 meters	.2
180 meters	0
210 meters	.5
240 meters 60	1.3
270 meters	
300 meters	
Average	~~0.79~~ KH 07Jul14

snake
oily water
raccoon tracks
feces
hog tracks
algae, waterplants

ULDR- 1-4 300

ULDR- 5-8 150

a-obstruction

ULDR -10 -13 60

0.645 AR 26 AUG15

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	0.0
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU04

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☑Other: Click here to enter text	

Comments: Click here to enter text

dense vegetation
snakes

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU04

Date: | Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) KH per AM 03 Jul 14

Click here to enter text. snakes, hog tracks, ~~raccoon tracks~~, overgrown vegetation around creek water body

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. No KH per AM 03 Jul 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant		
Algae Cover	☐absent	☑rare	☐common	☐abundant		
Odor	☐none	☐rare	☑common H_2S	☐abundant		
Color	☐clear	☐green	☐red	☑brown	☐black	
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☑other soft sucking mud	
Water Surface	☐clear	☑scum	☑foam	☐debris	☑oil	

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☑moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments Click here to enter text. KH per AM, JJ, KB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

cans, glass, metal

Field Data Sheets RUAA Survey

(complete for each site)

start 1135 CST End 1520 CST

Site: Click here to enter text. MU05

Data Collectors & Contact Information: Click here to enter text. AM JJ KB	
Date & Time: 18 June 14	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑flow ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Forest @ bridge @ roadway and surrounding waterbody

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

dense forest + veg
bridge is only public access point
deep + mucky water

KH per AM
08/21/14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU05

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. limited access to waterbody - due to forest

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU05

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

denseves
snakes
mucky/deep
logjams

KH per AM
08Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

TOO DEEP TO WADE AFTER 270-90
0-90 LOOKED SAME

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (~~0~~ 90 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU05

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Canine tracks
hog tracks
raccoon tracks, feces
oily scum
dead crawfish
snake (x2)

Distance		Depth (meters)
0 meters	300	1
30 meters	270	1.5+
60 meters	240	1.1
90 meters	210	1.1
120 meters	180	1.1
150 meters	150	.7
180 meters	120	1.4
210 meters	90	1.5+
240 meters	60	
270 meters	30	
300 meters	0	
Average		1.18

ULDR 1-4

ULDR 5-8
obstruction 1 in
with ULDR 1
9 obstruction

ULDR-10-13

KH 08/28/14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8
Width at narrowest point of the stream within 300 meter reach	5
Width at the widest point of the stream within 300 meter reach	14

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU05

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU05

Date: | Time:

ICH per AM 08Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. ~~raccoon tracks, canine tracks, hog tracks, deer tracks, snakes, evidence of crawfish~~

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. No ICH per AM 08Jul14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☑moderate presence	☐large presence
Domesticated Pets	☐None	☑slight presence	☐moderate presence	☐large presence
Livestock	☐None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

ICH per AM, JJ, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

bottles, metals, plastics

Field Data Sheets RUAA Survey

(complete for each site)

Start 1315CST End 1425CST Site Click here to enter text.: MUC6

Data Collectors & Contact Information: Click here to enter text. AB JJ KB
Date & Time Click here to enter text.: 18 June 14 County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

INTERVIEW WITH MAN DRIVING BY

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R L ✓	Forest		Urban	✓	Rip rap
	Shrub dominated corridor	R L ✓	Pasture	✓	Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

> at entrance

KH per AM 02 Jul 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge @ roadway had a large amount of rip rap and steep slopes

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☑Rip rap ☑Concrete

LOTS OF TREE/LEAF DEBRIS

Fenced

bridge is only public access

KH per AM 02 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: NWOL

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text. bridge at roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

SH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU06

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. only at bridge, otherwise, fenced & pp.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

H_2S odor
r prap
steep banks
mucky
poison ivy

KH per AM
02 Jul 14

dense vegetation

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU06

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU06

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

rip rap / ~~dr~~ riprap dam
tires trash
hog tracks, slide
glass bottles
cans
scum, oil, leaf
depri-couch, metals
raccoon feces

Distance 03NOV14	Depth (meters)
0 meters 300	.8
30 meters	.3
60 meters	.6
90 meters	.25
120 meters	.5
150 meters	.55
180 meters	.65
210 meters	.5
240 meters	.5
270 meters	.55
300 meters 0	.4
Average	0.51

ULDR 1-4
5-man made structure

ULDR - 6 - 9

ULDR - 10 - 13
w/ obstruction 1 in pictures

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8
Width at narrowest point of the stream within 300 meter reach	4.5
Width at the widest point of the stream within 300 meter reach	15

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU06

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☑Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:Click here to enter text	

Comments:Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU06

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) KH per AM 03/21/14

Raccoon feces, ~~tracks~~, hog tracks and slides, rip rap trash, tires, metal, bottles

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common H_2S	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☑foam	☑debris	☑oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

KH per AM, JJ, KB 03/21/14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

tires, couch

Briefly describe the kinds of garbage observed:Click here to enter text.

small trash, bottles, cans, metal

Field Data Sheets RUAA Survey

(complete for each site)

Start 1145 CST End 1230 CST Site: Click here to enter text. MU07

Data Collectors & Contact Information: Click here to enter text. AM JJ KB	
Date & Time: 18 June 14	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban	✓	Rip rap > at bridge
KB per AM 08 Jul 14	Shrub dominated corridor	RL ✓	Pasture	✓	Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

bridge @ roadway w/ steep slopes and fences

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU07

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. bridge @ roadway / trees, branches in water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

KH per SR 09/21/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU07

Date: | Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

mucky
H_2S odor
depth (deep)

KH per AM
08Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU07

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30-300+	7.7	.7
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU07

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

cans
water bird, tracks
raccoon tracks

riprap
tires
hog tracks
bird droppings
obstruction 1, 2
deer tracks
bucket

Distance 03/10/14	Depth (meters)
0 meters 300	0.16
30 meters	.2
60 meters	.35
90 meters	.5
120 meters	.55
150 meters	.4
180 meters	.4
210 meters	.15
240 meters	.7
270 meters	.45
300 meters 0	.7
Average	0.42

ULDR 1-4

-obstruction 1
-obstruction 2
ULDR - 5-8
includes obs 2 and 3

ULDR - 9-12

KH 01 Jul 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.5
Width at narrowest point of the stream within 300 meter reach	1
Width at the widest point of the stream within 300 meter reach	7.7

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU07

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: 14407

Date: Time:

KH per AM 03 Jul 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

~~[illegible] tracks~~ and feces, ~~sighted water bird~~, ~~bird droppings~~ ~~tracks~~ ~~deer tracks~~, hog tracks, tires, obstruction

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

H2S odor

LOTS OF LEAF DEBRIS & TWIGS / FOCE SUBMERGED

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos). KH per AM 03 Jul 14

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☑scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☑moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☑slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

KH per AM JJ, KB 03 Jul 14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Tires

Briefly describe the kinds of garbage observed: Click here to enter text.

Tires, plastic buckets, beer cans, metal

Field Data Sheets RUAA Survey

(complete for each site)

Start 1105 CST End 1135 CST Site: Click here to enter text. MU08

Data Collectors & Contact Information: Click here to enter text. AM, KB KH 07Jul14	
Date & Time: Click here to enter text. 18 June 14 KH per AM 07Jul14	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

___ Forest	___ Urban	___ Rip rap
___ Shrub dominated corridor	✓ Pasture	___ Concrete
___ Herbaceous marsh	___ Row crops	Other (specify): Click here to enter text.
___ Mowed/maintained corridor	___ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge @ roadway with steep slopes and fences

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

single access point @ bridge
fence across stream @ 0 transect
mucky

KH per AM
07Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU09

Date: | Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Click here to enter text. bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

KH per SR 09/21/14

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

H_2S odor

KH per AM
02 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU08

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU08

Date: | Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

raccoon tracks
tires
logs in water
turtle
snake
pastures
steep slopes

Distance 03NOV14	Depth (meters)
0 meters 302	.2
30 meters	.35
60 meters	.5
90 meters	.8
120 meters	.58
150 meters	.5
180 meters	.3
210 meters	.08
240 meters	.2
270 meters	.5
300 meters	.8
Average	0.44

ULDR 1-4

ULDR 5-8

ULDR 9-12

KH 03JUL14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	1
Width at the widest point of the stream within 300 meter reach	8.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (150 meters) Upstream | Downstream | Left Bank | Right Bank

Photo #s (300 meters) Upstream | Downstream | Left Bank | Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU08

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: MU08

Date: | Time:

ICH per AM 08Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) ~~turtle~~, snakes

Click here to enter text.

~~Raccoon tracks and feces~~, bird droppings, logs in creek, tires

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. No ICH per AM 08Jul14

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	~~☑none~~	☐rare	☑common H2S	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☐None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence Raccoon	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

ICH per AM, JJ, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☑Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare Tires	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Small garbage - plastics, bottles

some metal and concrete present

Field Data Sheets RUAA Survey

(complete for each site)

Start 1010 CST End 1055 CST

Site: MUOG

Data Collectors & Contact Information: Click here to enter text. AM JJ KB	
Date & Time: 18 June 14	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☑ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge @ roadway - steep slopes and fences

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☒Concrete AT BRIDGE

deep & mucky
Steep slopes

KH per AM
03Jul14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU09

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

KH per SR 09/21/14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU09

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

deep, mucky, snakes, H_2S odor

KH per AM
02 Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU09

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	0-300	10	1.4
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU09

Date: Time:

KH per AM 00Jul14

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

H_2S odor
bird tracks
raccoon tracks
foam
oily surface
tire

Distance 03NOV14	Depth (meters)	
0 meters 300	0.15	ULDR 1-4
30 meters	.7	
60 meters	1.4	
90 meters	.9	
120 meters	1	ULDR-6-9
150 meters	0.55	~~ULDR 1-4~~
180 meters	.75	5-pipeline
210 meters	.8	
240 meters	1	
270 meters	.9	
300 meters 0	.65	ULDR-10-13
Average	0.80	

KH 01Jul14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.5
Width at narrowest point of the stream within 300 meter reach	4.5
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU09

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments:Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☑Utility pipe
- ☒Fences
- ☐Dams
- ☐Other (specify): Click here to enter text.
- ☐Log jams
- ☐Thick vegetation
- ☐Rip rap
- ☐Low bridges
- ☐Water control structure
- ☐None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☐Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other:Click here to enter text
- ☑None of the above

Comments:Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Private property
- ☐Wildlife
- ☐No public access
- ☑Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☑Steep slopes
- ☐Other:Click here to enter text.
- ☐Barge/ship traffic
- ☐None of the above

Comments:Click here to enter text

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other:Click here to enter text.

Comments:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: MU09

Date: Time:

KH per AM 03Jul14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

raccoon tracks, large bird tracks, surface foam.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

H_2S odor

KH per AM 03Jul14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☑oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

KH per AM, JJ, KB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

fire

Briefly describe the kinds of garbage observed: Click here to enter text.

tires, road trash (plastics, cans, bottles)

KH per AM 03Jul14

Field Data Sheets RUAA Survey

(complete for each site)

ST 0920 CST ET 1005 Site: Click here to enter text. MU 10

Data Collectors & Contact Information: Click here to enter text. AM JS KB	
Date & Time: 18 JUNE 2014	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL ✓	Forest		Urban		Rip rap
KL tree AM	Shrub dominated corridor	RL ✓	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. bridge w/ culverts @ roadway

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

single access @ bridge; all else pp
fence, dense ves. on banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU10

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. bridge @ roadway

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

No

KH per SR 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Mucky, H_2S odor

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU10

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	30	9	.6
Pool 2	50	5	~~.55~~ .6
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU10

Date: _____ Time: _____

surface foam H_2S culvert @ road forest/pasture clear brown water trash-moderate smell coon tracks, hog, cattle oily surface logs in creek fence poison ivy

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	.35
30 meters	.2
60 meters	.09
90 meters	.1
120 meters	.35
150 meters	.2
180 meters	.38
210 meters	.2
240 meters	.45
270 meters	.3
300 meters	.55
Average	0.29

03NOV14 300 0

ICH 01/30/14

ULDR 5-8

ULDR 1-4

9-fence through middle of creek

ULDR - 10-13

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.5
Width at narrowest point of the stream within 300 meter reach	.8
Width at the widest point of the stream within 300 meter reach	9

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU10

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☑Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU10

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

KH per AM 03Jul14

~~Raccoon, hog and cattle tracks~~. Deer droppings, cattle manure, trash, tire, fence

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

poison ivy

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Raccoon, hogs, deer

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

KH per AM, JJ, FB 03Jul14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

tire

Briefly describe the kinds of garbage observed:Click here to enter text.

small trash, tire BOTTLES, PLASTICS

Field Data Sheets RUAA Survey

(complete for each site)

ST 0820 CST ET 0910 CST Site: MU11

Data Collectors & Contact Information: AM JS KB	
Date & Time: 18 JUNE 2014	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban	✓	Rip rap
	Shrub dominated corridor	RL ✓	Pasture	✓	Concrete > at bridge
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): bridge @ road crossing

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☑Gravel ☐Bedrock ☑Rip rap ☑Concrete

moderate ✓ at bridge

Fence @ O in channel
PP
public access @ bridge
steep slopes
poison ivy
overhangs + increasing trees
bo jams

ICH per AM
OD Jul 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU11

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

bridge @ roadway

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SE 09 Jul 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU11

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a.Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

bridge @ roadway

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

No

ICH per AM
00 Jan 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU11

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MUII

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

PVC Pipe
algae
concrete, riprap @ bridge

fence
obstruction between 120 and 150
feces / pasture
coon tracks
cattle manure
foam, scum, aquatic veg

Distance	Depth (meters)
0 meters	.85
30 meters	.8
60 meters	.05
90 meters	.2
120 meters	.05
150 meters	.1
180 meters	.1
210 meters	.31
240 meters	.4
270 meters	.3
300 meters	.5
Average	0.33

ULDR - 1-4

5 - obstruction
ULDR - 6-9

ULDR - 10-13

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3
Width at narrowest point of the stream within 300 meter reach	.3
Width at the widest point of the stream within 300 meter reach	9

U/S BRIDGE

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU11

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☑NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: MU11

Date: _____ Time: _____

KH per AM 03/31/14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

~~Raccoon tracks~~, cattle manure, PVC pipe, moderate foam, scum and aquatic vegetation.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

moderate aquatic vegetation

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

poison ivy - right bank

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☑slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Raccoons

Comments

KH per AM, JS, KB 03/31/14

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

PVC Pipe, plastics, cans, bottles

Briefly describe the kinds of garbage observed:

[redacted]

2

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MU01

Data Collectors & Contact Information: Click here to enter text. SS KB JJ	
Date & Time: 0645 - 0750	County Name: Click here to enter text. SR
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, Locked gate, ATV access only

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Same as previous

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☑physical characteristics of the water body ☑limited public access ☐other. If other, list reasons: Click here to enter text. N A Same as previous + very dense bank veg.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☑Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

very dense veg of button bush & mostly cockleburs

Distance	Approx width	Depth (meters)
0 meters	18m	1.5+
30 meters	16m	1.5+
60 meters	18m	1.5+
90 meters	16m	1.5+
120 meters		
150 meters		
180 meters		
210 meters		
240 meters		
270 meters		
300 meters		
Average		

ULDR-1-4

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	16
Width at narrowest point of the stream within 300 meter reach	16
Width at the widest point of the stream within 300 meter reach	18

A

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Approximate due to thick vegetation

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☑None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☑Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☑Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text. pp, multi-owned hunting/rec. area, w/ on-site residences. Mud Creek Hunting Club

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☑No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other: Click here to enter text	

Comments: Click here to enter text. Dense veg.

6. Check any indications of human use (Attach photos).

☐Roads	☑RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Same as previous

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☑Yes ☐No

Duck mgt. & all wildlife management Activity.

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

07 Aug 14 Site: MC08

Data Collectors & Contact Information: Click here to enter text. SR, JS ICB	
Date & Time: 1225	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. private property, steep banks, densely vegetated

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. low levels, muddy, debris in channel

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. NA

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text
Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur? NA
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous
Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. pp, steep banks, dense veg

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Flow normal running

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)	
0 meters	ULOR	.80
30 meters		.8
60 meters		1.02
90 meters		1.4
120 meters		.5
150 meters	ULOR	.42
180 meters		.62
210 meters		.82
240 meters		1.2
270 meters		.26
300 meters	ULOR	0.64
Average		0.77

Crowded towns
Divalves
Snails
deer trx
Frog
bird droppings & tracks
Aquatic veg.
poison ivy
hog wallows
unk. tracks

Photo #s old bridge cord.
#6 > Boat & like
#7

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~#9~~ 5.0
Width at narrowest point of the stream within 300 meter reach	1.4
Width at the widest point of the stream within 300 meter reach	11.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Glass garbage
bovine bones in bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text. Dense vegetation	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text. Boat tied in creek bottom

Comments: Click here to enter text. ↑ Aluminum

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: 2

Date: | Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. NA

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). NA

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

deer hog bird

☑Tracks ☑Fecal droppings birds ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text. glass bottles

Field Data Sheets RUAA Survey

(complete for each site)

07 Aug 14 Site: MW03

Data Collectors & Contact Information: SR JJ KB	
Date & Time: 0920	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban		Rip rap
LR	Shrub dominated corridor	RL	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Rock

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. socking mud, dense veg.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. CR 992

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Sucking mud, dense veg,

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. ~~N A~~ overgrown banks, Be fences @ PP

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	13.0	11.0	>1.5
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
coon
Squirrel

Fecal
bird

Distance	Depth (meters)	
0 meters	ULDR 0.2	
30 meters	0.65	photo # 5 Large tree obs @ 65m
60 meters	0.2	
90 meters	0.55	
120 meters	0.22	
150 meters	ULDR 0.4	
180 meters	0.32	Photo # 10 Obstruction @ 210
210 meters	0.18	
240 meters	0.3	Photo # 11 predated crawdad.
270 meters	0.56	
300 meters	ULDR 0.55	
Average	0.38	

Crawfish towers

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.5
Width at narrowest point of the stream within 300 meter reach	3.4
Width at the widest point of the stream within 300 meter reach	15.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Cattails

~~Raccoon Trx~~

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☐Barbed wire
- ☐Utility pipe
- ☐Fences
- ☐Dams
- ☐Other (specify): Click here to enter text.
- ☑Log jams
- ☐Thick vegetation
- ☑Rip rap
- ☐Low bridges
- ☐Water control structure
- ☐None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☑Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☑Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☑Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other: Click here to enter text.
- ☐None of the above

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☑Wildlife
- ☑No public access
- ☑Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☐Steep slopes
- ☐Other: Click here to enter text
- ☐Barge/ship traffic
- ☐None of the above

Comments: Click here to enter text. Dense veg

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 3

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Dense veg,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). N A

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☑solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc. Crawfish shells & tourds

☑Tracks raccoon squirrel ☑Fecal droppings bird ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

household glass

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MW04

Data Collectors & Contact Information: SR JJ KB	
Date & Time: 08/15 0910	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☒no flow ☐low ☒normal ☐high ☐flooded

0.0

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

2 R Forest	Urban	Rip rap	
Shrub dominated corridor	Pasture	Concrete	
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.	
Mowed/maintained corridor	Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Dense veg,

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. H_2S smell, sucking mud, submerged trees & debris, oily scum on surface, snakes

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.
☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) NA

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly NA

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Obstructions, dense veg, & Same as previous Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	1
30 meters	1.2
60 meters	1.3
90 meters	1.3
120 meters	1
150 meters	0.6
180 meters	0
210 meters	1.2
240 meters	1.5+
270 meters	
300 meters	
Average	0.83

fish
scum/oil
aquatic plants
duckweed on surface
large garbage
frogs
H_2S smell
crawdad holes
poison ivy
snake

ULDR-1-4
OBS-5
ULDR-6-9
ULDR-10-13

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~4.5~~ 5.5
Width at narrowest point of the stream within 300 meter reach	~~1.5~~ 0
Width at the widest point of the stream within 300 meter reach	10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☑Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text. Dense veg.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 4

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. Same as previous

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) small fish

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text. NA

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☑oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☑Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text. glass bottles, wrappers

only @ RR crossing

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MUC5

Data Collectors & Contact Information: Click here to enter text. SR JJ KB	
Date & Time: 0925 1000	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor		Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Dense veg, sucking mud

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. muddy water, dense veg, scum & duckweed on surface
sucking mud bottom

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) N A

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous Click here to enter text.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. Dense veg .

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream. (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Width		Depth (meters)
0 meters	16.5	ULDR	>1.5
30 meters	10m		>1.5
60 meters	9m		>1.5
90 meters			1.2
120 meters			0.8
150 meters		ULDR	1.0m
180 meters		ULDR	1.1
210 meters			
240 meters			
270 meters			
300 meters			
Average			1.2

Distance	Depth	Width
300		
270	300 >1.5	16.5
240	270 >1.5	10m
210	240 >1.5	9m
180	210 1.2	
150	180 1.1	
120	150 1	
90	120 0.8	
	90 1.1	ULDR

small fish
frog
Tire on bank

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	7.5
Width at narrowest point of the stream within 300 meter reach	4.5
Width at the widest point of the stream within 300 meter reach	16.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Glass bottle

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☑Culverts	☐Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☑Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text.

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☑No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text. Dense veg	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site: 5

Date: Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other:Click here to enter text. Duckweed

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☒None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

glass bottles

08 Aug 14 start: 1020 end: 1055

Field Data Sheets RUAA Survey

(complete for each site)

Site: MH06

Data Collectors & Contact Information: SR JJ KB
Date & Time: Click here to enter text. County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☒low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☒ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Rip rap at access @ roadway steep.

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. access @ roadway / bridge

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text. access @ roadway / bridge

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text.

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text.

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text.

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text.

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters	0.35
30 meters	0.35
60 meters	0.40
90 meters	0.30
120 meters	0.75
150 meters	0.25
180 meters	0.35
210 meters	0.09
240 meters	0.40
270 meters	0.35
300 meters	0.35
Average	0.36

mud clay
fence crossing stream
Raccoon tracks
hydrologic modification
crawfish
small fish
bank garbage
oily/scum
shell/mussel shells
bird poop
deer tracks

ULDR - 13-16
tree - 12
ULDR - 8-11
trash/bank - 7
hydrologic mod. - 6
ULDR 1-5
TRash - 1

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6
Width at narrowest point of the stream within 300 meter reach	3
Width at the widest point of the stream within 300 meter reach	~~8~~ 12

nog activity
willows
aquatic vegetation

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☑Yes ☐No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text. hydrologic modification under bridge at entrance-rip rap wall

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☑Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 6

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

aquatic vegetation, bank garbage, Raccoon and hog tracks deer tracks, bird feces

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) mussel shells, aquatic vegetation, crawdad bones

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☐No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☐fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☑oil

Other:Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

CommentsClick here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☐Common	☑Abundant
Bank garbage	☐None	☐Rare	☐Common	☑Abundant

Briefly describe the kinds of garbage observed:Click here to enter text.

tires, small battery, cans, old tv.

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MU07

Data Collectors & Contact Information: SB JJ KB	
Date & Time: 1105 - 1190	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
LR	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Steep slopes, pp fence

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

brown. scum, foam, sucking mud, PP, fence

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. N/A

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N/A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N/A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: N/A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). fence across stream

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Trash Poop

hog

cow

Distance	Depth (meters)	
0 meters	ULOR	0.8
30 meters		0.4
60 meters		0.5
90 meters		0.1
120 meters		0.2
150 meters	ULOR	0.29
180 meters		0.45
210 meters		0.5
240 meters		0.2
270 meters		.10
300 meters	ULOR	.16
Average		0.34

Photo #11 cattle crossing

Photo 6 obstruction & Photo #5 tire 210

fish

frogs

livestock trail on upper bank

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5
Width at narrowest point of the stream within 300 meter reach	.3
Width at the widest point of the stream within 300 meter reach	10.0m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

scum/algae/foam

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☑Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 7

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) N A

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Small fish

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). N/A

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☐scum	☑foam	☑debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☐Bird nests

Hog
cow

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

tires, glass bottles, plastic sacks @ bridge

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MU08

Data Collectors & Contact Information: SB KB JJ	
Date & Time: 1155 -	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑flow ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban		Rip rap
LR	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): No

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation). pp, brown H2O, fence, trash, debris, shallow

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation). NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50 NA

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) NA

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly NA

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). PP, fence

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tray cow

Fecal cow

Distance	Depth (meters)	
0 meters	ULDR	~~0~~.07
30 meters		0.4
60 meters		0.15
90 meters		.05
120 meters		0.3
150 meters	ULDR	0.55
180 meters		0.6
210 meters		0.8
240 meters		0.5
270 meters		0.4
300 meters	ULDR	.15
Average		0.47

~~[redacted]~~ frogs
Crawfish ~~Hoovers~~
Small fish

old bridge/crossing concrete

#7 livestock xing
#6 Cows in Creek
#5 - Garbage

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	7.0
Width at narrowest point of the stream within 300 meter reach	.25
Width at the widest point of the stream within 300 meter reach	~~5.0~~ 10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

household garbage
Styrofoam, plastics, bottles glass,
Tires

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other:

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

- ☐Culverts
- ☑Fences
- ☐Log jams
- ☐Rip rap
- ☐Water control structure
- ☐Barbed wire
- ☐Dams
- ☐Thick vegetation
- ☑Low bridges
- ☐None
- ☐Utility pipe
- ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☑Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other:
- ☐None of the above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☑Fence
- ☐No trespass sign
- ☐Barge/ship traffic
- ☐Wildlife
- ☐Industrial
- ☑Steep slopes
- ☐None of the above
- ☐No public access
- ☐ No roads
- ☐Other:

Comments:

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☐No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: None

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 8

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) NA

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) NA

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). NA

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

household garbage in bags
bottles - plastic & glass
aluminum cans, Styrofoam,
large metal scrap @ bridge.

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: MU08

Data Collectors & Contact Information: SB KB JJ	
Date & Time: 1155 -	County Name:
Stream Name:	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑flow ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

	Forest		Urban		Rip rap
LR	Shrub dominated corridor	LR	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): No

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation). pp, brown H2O, fence, trash, debris, shallow

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation). NO

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☑No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50 NA

c. Check the following that apply regarding the individuals proximity to the water body.
☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft) NA

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly NA

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation). Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). PP, fence

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Trax
cow

Fecal
cow

Distance	Depth (meters)	
0 meters	ULDR	~~1~~ 0.7
30 meters		0.4
60 meters		0.15
90 meters		.05
120 meters		0.3
150 meters	ULDR	0.55
180 meters		0.6
210 meters		0.8
240 meters		0.5
270 meters		0.4
300 meters	ULDR	.15
Average		0.47

~~[illegible]~~
frogs
Crawfish ~~[illegible]~~
small fish

old bridge/crossing concrete

#7 livestock xing
#6 cows in creek
#5 - garbage

.418 26 Aug 15 AR

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; ~~and (3) the width~~ at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	7.0
Width at narrowest point of the stream within 300 meter reach	.25
Width at the widest point of the stream within 300 meter reach	~~5.0~~ 10

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

household garbage
Styrofoam, plastics, bottles glass,
Tires

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☑Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: None

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 8

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) NA

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) NA

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). NA

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☑moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

household garbage in bags
bottles - plastic & glass
aluminum cans, Styrofoam,
large metal scrap @ bridge.

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14	Site: MW09
Data Collectors & Contact Information: Click here to enter text. SR JJ KB	
Date & Time: 0820 - 0853	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☑low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

Forest	Urban	Rip rap
LR Shrub dominated corridor	LR Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): Click here to enter text.
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Fences

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text. Steep banks, PP, fenced, muddy water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. None

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. NA

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur? NA

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. fenced at road

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

TRX ~~[illegible]~~ cow

Fecal

bird

cow

Photos

Distance	Depth (meters)
0 meters	ULOR 0.68
30 meters	0.75
60 meters	0.75
90 meters	0.5
120 meters	0.65
150 meters	ULOR 0.4
180 meters	0.8
210 meters	0.8
240 meters	8m ≥1.5
270 meters	0.7
300 meters	ULOR 0.5
Average	0.73

turkeys-flushed two !!!

frogs

scum & duck weed

#5 fence @ bridge.

fenced on all sides at bridge

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6m
Width at narrowest point of the stream within 300 meter reach	5m
Width at the widest point of the stream within 300 meter reach	10m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Photo #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

Some water plants

Steep banks

tire

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☐Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other: Click here to enter text
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text.

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text. NONE

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: | Site: 9

Date: | Time:

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos) NA

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) NA

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). Creek fenced up to bridge on all 4 sides.

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☐clear	☑scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☑large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Wild turkey observed x2. Much turkey droppings along out 300 m stretch.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☐Tracks ☑Fecal droppings ☐Bird nests

Bird, cow

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Tire

Field Data Sheets RUAA Survey

(complete for each site)

08 Aug 14 Site: mid (split)

Data Collectors & Contact Information: Click here to enter text. SR ICB JS	
Date & Time: 0810-0847	County Name: Click here to enter text.
Stream Name: Click here to enter text.	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

LR	Forest		Urban		Rip rap
	Shrub dominated corridor	L	Pasture		Concrete
L	Herbaceous marsh		Row crops	Other (specify): Click here to enter text.	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. Dense veg, fenced

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text ~~None~~ low levels, dirty, detritis & debris, muddy, snakes, PP, fenced

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Click here to enter text

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site. N A

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. N A

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. Same as previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently N A

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly N A

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. N A

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. Same as previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text.

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Tracks
cow
racoon
hog
bobcat
coyote

Fecal
Bird
Cow

Photos

Distance		Depth (meters)	
0 meters	360	OLOR	0.1
30 meters	270		0
60 meters	240		0
90 meters	210		0
~~120 meters~~	180		0
150 meters		OLOR	0.4
~~180 meters~~	120		0.3
~~210 meters~~	90		0
~~240 meters~~	60		0.2
~~270 meters~~	30		0.2
~~300 meters~~	0	OLOR	0
Average			0.11

S fence

snake
Cottonmouth
Crawfish tower
frogs
algae on bottom

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2.5
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	4.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Tire
Plastics & glass bottles
Aluminum

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

- ☐Drinking or water in mouth
- ☐Bathing
- ☐Walking
- ☐Jogging/running
- ☐Bicycling
- ☐Standing
- ☐Sitting
- ☐Lying down/sleeping
- ☐Playing on shoreline
- ☐Picnicking
- ☐Motorcycle/ATV
- ☐Hunting/Trapping
- ☐Wildlife watching
- ☑None
- ☐Other: Click here to enter text.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

- ☑Culverts
- ☑Fences
- ☑Log jams
- ☐Rip rap
- ☐Water control structure
- ☑Barbed wire
- ☐Dams
- ☑Thick vegetation
- ☐Low bridges
- ☐None
- ☐Utility pipe
- ☐Other (specify): Click here to enter text.

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐Campgrounds
- ☐Playgrounds
- ☐Rural area
- ☐Residential
- ☐National forests
- ☐Urban/suburban location
- ☐Golf course
- ☐Sports Field
- ☐Stairs/walkway
- ☐Boating access (ramps)
- ☐Beach
- ☐Bridge crossing
- ☐Commercial boating
- ☐Nearby school
- ☐Paved parking lot
- ☐Unimproved parking lot
- ☑Roads (paved/unpaved)
- ☐Populated area
- ☐Docks or rafts
- ☐Commercial outfitter
- ☐Trails/paths (hiking/biking)
- ☐Power Line Corridor
- ☐Parks (national/city/county/state)
- ☐Public Property
- ☐Other: Click here to enter text.
- ☐None of the above

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑Private property
- ☑Wildlife
- ☐No public access
- ☑Fence
- ☐Industrial
- ☐ No roads
- ☐No trespass sign
- ☐Steep slopes
- ☐Other: Click here to enter text.
- ☐Barge/ship traffic
- ☐None of the above

Comments: Click here to enter text. Dense veg.

6. Check any indications of human use (Attach photos).

- ☐Roads
- ☐Camping Sites
- ☐Children's toys
- ☐RV/ATV Tracks
- ☐Gates on corridor
- ☐Foot paths/prints
- ☐NPDES Discharge
- ☑No human presence
- ☐Fishing Tackle
- ☐Organized event
- ☐Dock/platform
- ☐Remnants of kids' play
- ☐Rope swings
- ☐Fire pit/ring
- ☐Other: Click here to enter text.

Comments: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 10

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Click here to enter text. 2

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Frogs, Small fish, Crawfish

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated). None

Click here to enter text.

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☑rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☐None	☐slight presence	☑moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

Cows ← Hogs Coyote Bobcat raccoon

☑Tracks ☑Fecal droppings Birds, Cows ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

TREE

Briefly describe the kinds of garbage observed: Click here to enter text.

glass & plastic bottles, Aluminum cans,

Field Data Sheets RUAA Survey

(complete for each site)

080814 Site: mc11

Data Collectors & Contact Information: Click here to enter text. SB JJ KD
Date & Time: 0800-0829 County Name: Click here to enter text.
Stream Name: Click here to enter text.
Segment No. or nearest downstream Segment No.: Click here to enter text.
Description of Site: Click here to enter text.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☑no flow ☐low ☐normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☑ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
LR Shrub dominated corridor	LR Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify): Click here to enter text.
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Click here to enter text. PP, fence, Dense veg

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☐Mud/Clay ☑Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other: Click here to enter text.

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

Click here to enter text See previous

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation). ~~Yes~~

Click here to enter text

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? Click here to enter text. NO

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☑No secondary contact recreation activities were observed
☐Other secondary contact activities: Click here to enter text.

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body. NA

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Click here to enter text. See previous

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently NA

Please describe how often the activities occur? NA

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: Click here to enter text. NA

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

Click here to enter text. See previous

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). Click here to enter text. PP fence

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Trash

raccoon

Distance	Depth (meters)
0 meters	OLDR 0.45
30 meters	0.3
60 meters	0.15
90 meters	0.2
120 meters	0.13
150 meters	OLDR 0.11
180 meters	0.02
210 meters	0.15
240 meters	0.2
270 meters	~~1.0~~ 1.0
300 meters	OLDR 1.13
Average	0.35

Photos

#6 obst.

#5 - pipe entering creek

frogs

Shells

small fish

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.5
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	13.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other: Click here to enter text.
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: Click here to enter text.

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☒Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify): Click here to enter text.			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☑Roads (paved/unpaved)	☐Other: Click here to enter text.
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments: Click here to enter text

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other: Click here to enter text.	

Comments: Click here to enter text

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	

☐Other: Click here to enter text.

Comments: None Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: 11

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

None

Click here to enter text.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Small fish, frogs

Click here to enter text.

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

N A

Click here to enter text.

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☑rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☑none	☐rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other: Click here to enter text.

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments: Click here to enter text.

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments Click here to enter text.

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

raccoon ☑Tracks ☐Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed: Click here to enter text.

Field Data Sheets RUAA Survey

(complete for each site)

ICIT per SR
30 May 14

Site: SM001

Data Collectors & Contact Information: SJ CW SR	
Date & Time: 16 May 14 1400-1430 CST	County Name:
Stream Name: Smith	
Segment No. or nearest downstream Segment No.:	
Description of Site: SM01	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☑ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☐ Forest	☐ Urban	☐ Rip rap
☑ Shrub dominated corridor	☑ Pasture NoS	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☒Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP locked gate steep banks, dense veg @ bank

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:
☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

PP, fences, locked gate, steep banks, dangerous wildf.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

Completely within pp.

KHperSP 30May14

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

C. Secondary Contact Water Recreation Evaluation:
-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). Fence, pp, vertical 10' Banks Snakes,

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?
☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation). pp, locked gate

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities. Steep banks, dense veg, snakes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream 1 Downstream 3 Left Bank 2 Right Bank 4

Photo #s (150 meters) Upstream 7 Downstream 9 Left Bank 8 Right Bank 10

Photo #s (300 meters) Upstream 111 Downstream 113 Left Bank 112 Right Bank 114

#5 obs @ 80

#6 obs @ 132

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR	.31
30 meters	.3
60 meters	.24
90 meters	.38
120 meters	.36
150 meters ULDR	.42
180 meters	.56
210 meters	.60
240 meters	.52
270 meters	.58
300 meters ULDR	.44
Average	0.43 KH 29 May 14

raccoon try.
Deer trx.
Pic #5 obstruction @ 80m

Beaver gnaw
Bivalves
Snapping turtle
water snake, green snake
Crawdad

Plastics/tires/

Pungent odor

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3
Width at narrowest point of the stream within 300 meter reach	.50m
Width at the widest point of the stream within 300 meter reach	7.00m

7m

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☑Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☑Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☑Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☑No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Steep banks PP

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

turtles, snakes, crawfish

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☒common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☐sludge	☐solids	☑fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☑slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☑slight presence	☐moderate presence	☐large presence

Comments turtle

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☐Fecal droppings ☐Bird nests

Hogs, raccoon, Deer

Garbage Observed

Large garbage in the channel	☑None	☐Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☑None	☐Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

tins, plastics

Field Data Sheets RUAA Survey

(complete for each site)

Site: SM 02

Data Collectors & Contact Information: DB AM	
Date & Time: 10 MAY 14 1245 CST	County Name:
Stream Name: 1415 CST	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☑ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

ICH per SR 03 Jun 14

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

ICH per AM 03 Jun 14 RL

☑ Forest	☐ Urban	☐ Rip rap
☐ Shrub dominated corridor	☐ Pasture	☐ Concrete
☐ Herbaceous marsh	☐ Row crops	Other (specify):
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

ICH per AM 03 Jun 14

PP. open @ road crossing, fence on either side

6. Dominant Primary Substrate

☐Cobble ☐Sand ☑Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

AT ROAD CROSSING

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☒No primary contact recreation activities were observed 3157 LLS

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

Kittar SR 03 June 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: DIFFICULT ACCESS, DARK SCARY WATER, POISON IVY & LOTS OF PLANTS/TREES/VINE/DIFFICULT POISON IVY

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Kapper AM
03 Jun 14

poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☐Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather. 3 OBSTRUCTIONS – PIPE & TREES

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

1-4
7-10
12-15

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

NO POOLS

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

Distance	Depth (meters)
0 meters ULDR 1-4	0.5
30 meters	0.34
60 meters	0.5
90 meters	0.39
120 meters	0.68
150 meters ULDR 7-10	0.67
180 meters	0.29
210 meters	0.32
240 meters	0.47
270 meters	0.65
300 meters ~~ULDR~~ 12-15	0.5
Average	0.49

ICH 29 May 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0
Width at narrowest point of the stream within 300 meter reach	2.0
Width at the widest point of the stream within 300 meter reach	9.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments:

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☒Log jams 2	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☒None
☒Utility pipe 2	☐Other (specify):			

TOILETS & 1 WATER

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

AT CROSSING

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☒None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☒Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☒No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

DIFFICULT ACCESS & STEEP BANKS ; LOTS OF TREES & VEGETATION

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) SMALL FISH

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

ICI per AM 03Jan14

No

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☒absent	☐rare	☐common	☐abundant	
Algae Cover	☒absent	☐rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☒clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☒sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☒None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☒Bird nests HOG/DEER

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	SHOPPING CART & TIRE
Small garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	
Bank garbage	☐None	☒Rare	☐Common	☐Abundant	BOTTLES PLASTIC

Briefly describe the kinds of garbage observed:

Field Data Sheets RUAA Survey

(complete for each site)

Site: SM03

Data Collectors & Contact Information:	DB AM / SR 33 CW
Date & Time: 16 MAY 14 1140 CST	County Name:
Stream Name: 1230	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

~~23~~ 140516_SM3_Dup

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☒normal ☐high ☐flooded

VERY TURBID

2. Check the following stream type that applies on the day of the survey:

☒ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

☒ Forest E	☐ Urban	☐ Rip rap	
☐ Shrub dominated corridor	☒ Pasture W	☐ Concrete	
☐ Herbaceous marsh	☐ Row crops	Other (specify):	
☐ Mowed/maintained corridor	☐ Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☒Moderately difficult ☐Difficult

1 H par SR 03 Jun 14

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): PP

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☒Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☐None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☑Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

MUDDY/SILTY/CLAY BOTTOMS, WATER NOT CLEAR

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

PUBLIC ROAD CROSSING

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

KH per SR 03 June 14

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☒No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing
☐Boating-commercial, recreational
☐Non-whitewater-kayaking, rafting, canoeing
☐No secondary contact recreation activities were observed
☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☒None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water
☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons: DIFFICULT ACCESS, DARK WATER, POISON IVY

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

KH per AM 03 Jun 14

mucky soft bottom

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

KH per AM 03 Jun 14

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

poison ivy

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

+ 2 PICTURES OF BEAVER DAMS

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

GPS 0 & 150

CRAWDADS BIVALVES RACCOON TRACKS BIRD/BIRD POOP BANK GARBAGE SNAKE

0.2 MIN

Distance	Depth (meters)
0 meters ULDR 1-4	0.55
30 meters	0.5
60 meters	0.44
90 meters	0.32
120 meters	21 inches 1.12
150 meters ULDR 6-9	1.3
180 meters	1.4
210 meters	1.06
240 meters	0.96
270 meters	0.73
300 meters ULDR 11-14	0.62
Average	0.82

@ BEAVER DAM 5

BEAVER DAM 10 28.0 m

ICH 29 MAY 14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5.0
Width at narrowest point of the stream within 300 meter reach	0.2
Width at the widest point of the stream within 300 meter reach	28.0

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☒None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☒No (If yes, please provide supporting documentation and photos.)
Comments: 2 BEAVER DAMS

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☒Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☒Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☒Roads (paved/unpaved) ATV CROSSING	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☐None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☐Steep slopes	☒None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☐No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☒Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other: TRAIL MIGHT BE WILDLIFE OR FROM LAST STORM				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

K H per AM 03 June 14

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

No

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) BIVALVES CRAWFISH

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☒No

K H per AM 03 June 14

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No L B entrance has wash area w/ numerous logs where you could break leg

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☒rare	☐common	☐abundant	
Algae Cover	☐absent	☒rare	☐common	☐abundant	
Odor	☒none	☐rare	☐common	☐abundant	
Color	☐clear	☐green	☐red	☒brown	☐black
Bottom Deposit	☒sludge	☐solids	☒fine sediment	☐none	☐other
Water Surface	☒clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☐None	☒slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☒None	☐slight presence	☐moderate presence	☐large presence
Alligators	☒None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☐None	☐slight presence	☐moderate presence	☐large presence
Livestock	☐None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☐None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☒Tracks ☒Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☒Rare	☐Common	☐Abundant	TIRES
Small garbage in the channel	☐None	☐Rare	☒Common	☐Abundant	
Bank garbage	☐None	☐Rare	☐Common	☒Abundant	

Briefly describe the kinds of garbage observed:

PLASTIC BOTTLES, ALUMINUM CANS & GLASS BOTTLES FOAM, TIRE TUBES

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0800 End: 0900

Site: SM031

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/11/2014 / 0800 CST	County Name:
Stream Name: Smith Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

Forest	Urban	Rip rap
Shrub dominated corridor	✓ Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify):
Mowed/maintained corridor	Denuded/Eroded bank	

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☐Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep banks on private property will closed and locked gate

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800 CST

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing

☐Wading-Adults ☐Surfing

☐Swimming ☐Whitewater-kayaking, canoeing, rafting

☐Water skiing ☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

no public access. locked gate onto private property.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur? KB

☐Unknown ☑Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☑physical characteristics of the water body KB ☑limited public access KB ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Steep KH pic SR 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800 CST

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

feces
- wildlife feces w/ crawdad in it on bank
deer

trx
hog
deer
coyote tracks

Distance		Depth (meters)
0 meters	ULDR 1-4	0.25
30 meters		0.20
60 meters		0.21
90 meters		0.35
120 meters	logdam 5	0.38
150 meters	ULDR 6-9	0.40
180 meters		0.40
210 meters		0.78
240 meters		0.40
270 meters		0.55
300 meters	ULDR 10-13	0.45
Average		0.40

hog wallows
minnows
Red eared slider
~~Snapping turtle~~
tree frog (grey)

KH 29Jul14

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0
Width at narrowest point of the stream within 300 meter reach	3.5
Width at the widest point of the stream within 300 meter reach	4.5

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/10/2014 Time: 0800

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800 CST

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: ICH pres SR (Aug)14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☐Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above

☐Rural area	☐Beach	☐Docks or rafts
☐Residential	☐Bridge crossing	☐Commercial outfitter
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)
☐Sports Field	☐Unimproved parking lot	☐Public Property

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☑Private property	☑Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☑No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM01

Date: 7/11/2014 Time: 0800 CST

06 Aug 14 KH w/ permission from SR

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, ~~abundant wildlife, etc.?~~ (Attach photos)

deer feces, hog, deer and coyote tracks. hog wallows.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Red eared slider, minnows, grey tree frog

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No KH per SR 11 Aug 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☑absent	☐rare	☐common	☐abundant	
Algae Cover	☑absent	☐rare	☐common	☐abundant	
Odor	☐none	☐rare	☑common	☐abundant	
Color	☐clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☐sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

large tire. small bottles, cans

Field Data Sheets RUAA Survey

(complete for each site)

Start: 0925 End: 1015

Site: SM 02

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/11/2014 / 0925	County Name:
Stream Name: Smith Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

RL	Forest		Urban		Rip rap
RL	Shrub dominated corridor	R	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

Ortho SR 11 Aug 14

4. Ease of bank access to the water body: ☐Easy ☐Moderately easy ☑Moderately difficult ☑Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Access at bridge at roadway, with steep banks

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

C

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925 CST

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children ☐Tubing
☐Wading-Adults ☐Surfing
☐Swimming ☐Whitewater-kayaking, canoeing, rafting
☐Water skiing ☐Diving
☐frequent public swimming-created by publicly owned land or commercial operations
☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual
☐Primary touch: Individual's body (or portion immersed in water
☐Secondary touch: fishing, pets and related contact with water
☐Individual is in a boat touching water
☐Individual is on shore near water within 8 meters (25 ft) of water
☐Individual is well away from water between 8 and 30 meters (100 ft)
☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

same as before

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

same as before

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

No

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C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.
-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925 CST

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

overgrown banks / steep banks at roadway

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

None KH for SR 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: BSM02

Date: 7/11/2014 Time: 0925

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

feces
bird feces

tracks
dog tracks
wildlife

Distance	Depth (meters)
0 meters ULDR-12-15	0.34
30 meters OBS2-11	0.54
60 meters OBS1-10	0.54
90 meters fire 9	0.30
120 meters	0.26
150 meters ULDR-5-8	0.58
180 meters	1
210 meters	0.31
240 meters	0.35
270 meters	0.40
300 meters ULDR-1-4	0.35
Average	0.45

water dependent plants
pump tubing
fire
Obs-pipe 1
Obs-pipe 2

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c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4
Width at narrowest point of the stream within 300 meter reach	2
Width at the widest point of the stream within 300 meter reach	9

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth ☐Playing on shoreline
☐Bathing ☐Picnicking
☐Walking ☐Motorcycle/ATV
☐Jogging/running ☐Hunting/Trapping
☐Bicycling ☐Wildlife watching
☐Standing ☑None
☐Sitting ☐Other:
☐Lying down/sleeping

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)
Comments:

KH per SR 11 Aug 14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts ☐Fences ☑Log jams ☐Rip rap ☐Water control structure
☐Barbed wire ☐Dams ☐Thick vegetation ☐Low bridges ☐None
☑Utility pipe ☐Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds ☐Stairs/walkway ☐Roads (paved/unpaved) ☐Other:
☐Playgrounds ☐Boating access (ramps) ☐Populated area ☑None of the above
☐Rural area ☐Beach ☐Docks or rafts
☐Residential ☐Bridge crossing ☐Commercial outfitter
☐National forests ☐Commercial boating ☐Trails/paths (hiking/biking)
☐Urban/suburban location ☐Nearby school ☐Power Line Corridor
☐Golf course ☐Paved parking lot ☐Parks (national/city/county/state)
☐Sports Field ☐Unimproved parking lot ☐Public Property
Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property ☐Fence ☐No trespass sign ☐Barge/ship traffic
☐Wildlife ☐Industrial ☑Steep slopes ☐None of the above
☐No public access ☐ No roads ☐Other:
Comments:

6. Check any indications of human use (Attach photos).

☐Roads ☐RV/ATV Tracks ☐NPDES Discharge ☐Organized event ☐Rope swings
☐Camping Sites ☐Gates on corridor ☑No human presence ☐Dock/platform ☐Fire pit/ring
☐Children's toys ☐Foot paths/prints ☐Fishing Tackle ☐Remnants of kids' play
☐Other:
Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM02

Date: 7/11/2014 Time: 0925

16 Aug 14 KH w/perm. ssion from SR

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

hog tracks, wildlife tracks, bird feces 2 pipe obstructions.

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

water dependent plants

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No KH per SR 11 Aug 14

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Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☑common	☐abundant	
Algae Cover	☐absent	☐rare	☑common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☑brown	☐black
Bottom Deposit	☑sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☐oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☑None	☐slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☑None	☐slight presence	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Tire

Small metal. pump tubing

2

Field Data Sheets RUAA Survey

(complete for each site)

Start: 1050 End:

Site: SM03

Data Collectors & Contact Information: SR MG KB	
Date & Time: 7/11/2014 / 1050 CST	County Name:
Stream Name: Smith Creek	
Segment No. or nearest downstream Segment No.:	
Description of Site:	

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐dry ☐no flow ☐low ☑normal ☐high ☐flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a seven-day, two-year low-flow (7Q2) flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the TCEQ Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

KH per SR 11 Aug 14

R	Forest		Urban		Rip rap
RL	Shrub dominated corridor	L	Pasture		Concrete
	Herbaceous marsh		Row crops	Other (specify):	
	Mowed/maintained corridor		Denuded/Eroded bank		

4. Ease of bank access to the water body: ☐Easy ☑Moderately easy ☐Moderately difficult ☐Difficult

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Roadway at bridge

6. Dominant Primary Substrate

☐Cobble ☐Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☐Rip rap ☐Concrete

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation definition: Activities that are presumed to involve a significant risk of ingestion of water (e.g. wading by children, swimming, water skiing, diving, tubing, surfing, and the following whitewater activities: kayaking, canoeing, and rafting).

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐Yes ☑No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐Wading-Children	☐Tubing
☐Wading-Adults	☐Surfing
☐Swimming	☐Whitewater-kayaking, canoeing, rafting
☐Water skiing	☐Diving

☐frequent public swimming-created by publicly owned land or commercial operations

☐Other:

b. Check the number of individuals observed at the site:

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Water in mouth or nose of the individual

☐Primary touch: Individual's body (or portion immersed in water

☐Secondary touch: fishing, pets and related contact with water

☐Individual is in a boat touching water

☐Individual is on shore near water within 8 meters (25 ft) of water

☐Individual is well away from water between 8 and 30 meters (100 ft)

☐Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

~~bRidge @ Roadway~~ Nothing

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3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).

bRidge @ Roadway

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:

-Secondary contact recreation 1: Activities that commonly occur but have limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating). These activities are presumed to pose a less significant risk of water ingestion than primary contact recreation but more than secondary contact recreation 2.

-Secondary contact recreation 2: Activities with limited body contact incidental to shoreline activity (e.g. fishing, canoeing, kayaking, rafting and motor boating) that are presumed to pose a less significant risk of water ingestion than secondary contact recreation 1. These activities occur less frequently than secondary contact recreation 1 due to physical characteristics of the water body or limited public access.

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities) ☐Yes ☐No secondary contact recreation activities observed.

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐Fishing

☐Boating-commercial, recreational

☐Non-whitewater-kayaking, rafting, canoeing

☑No secondary contact recreation activities were observed

☐Other secondary contact activities:

b. Check the number of individuals observed at the site.

☑None ☐1-10 ☐11-20 ☐20-50 ☐greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐Secondary touch: fishing, pets and related contact with water ☐In a boat touching water

☐Body on shore near water within 8 meters (25 ft) of water ☐Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

same as before

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐infrequently

Please describe how often the activities occur?

☐Unknown ☐Never ☐Daily ☐Monthly ☐Yearly

4. If infrequently, what is the reason? ☐physical characteristics of the water body ☐limited public access ☐other. If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

same as before

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

same as before N/A K Hoper SR 11 Aug 14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion (e.g. activities with limited body contact incidental to shoreline activity, including birding, hiking, and biking), and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Nothing K Hoper SR 11 Aug 14

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream (A non-wadeable stream is one that is too deep to wade. Dry streams are considered wadeable.) ☑Wadeable ☐Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meters reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during dry weather flows (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

Photo #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools – Measure the length of each pool within the 300 meter reach (if > 10 pools only measure 10 pools). Also measure the width (at the widest point) and deepest depth of each pool. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a RUAA Survey. Report measurements to two significant figures. If depths are too deep to measure then report > 1.5 meters.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

b) Average depth at the thalweg – Take depth measurements every 30 meters within the 300 meter reach to calculate an average depth at the thalweg (at least 11 measurements needed). Report measurements to two significant figures. If depths are too deep at a particular transect to measure then report >1.5 meters. Use 1.5 when calculating the mean.

feces
bird

Distance	Depth (meters)
0 meters ULDR 1-4	0.70
30 meters	0.22
60 meters	0.~~24~~30
90 meters	0.23
120 meters OBS1-5	~~0~~1 KB
150 meters ULDR-6-9	1
180 meters	0.95
210 meters	0.90
240 meters	0.60
270 meters	0.70
300 meters ULDR-10-13	1
Average	0.68

JCH 06 Aug 14

Red eared slider
cattails
small fish
crawdad holes
small trash-bottle plastics, glass
shoe
water bird
tree frog
beaver dam
Beaver tire

tracks
Raccoon
beaver
Heron

c) Stream width – Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach. Report measurements to 2 significant figures.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.5
Width at narrowest point of the stream within 300 meter reach	.20
Width at the widest point of the stream within 300 meter reach	20

2. Non-wadeable Streams

If accessible, take 11 width measurements which represent typical widths of the 300 meter reach. If the water is too deep the entire 300 meter reach then record the estimated average width of the water body. Report measurements to two significant figures.

Also, take photos facing upstream, downstream, left bank, and right bank at the 0 meters, 150 meters, and 300 meters.

Photo #s (0 meters) Upstream Downstream Left Bank Right Bank

Photo #s (150 meters) Upstream Downstream Left Bank Right Bank

Photo #s (300 meters) Upstream Downstream Left Bank Right Bank

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek

Site: SM03

Date: 7/11/2014

Time: 1050

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

F. Additional RUAA Information. *Summarize your observations for the entire 300 meter reach.*

1. Check the following activities observed over the site reach.

☐Drinking or water in mouth	☐Playing on shoreline
☐Bathing	☐Picnicking
☐Walking	☐Motorcycle/ATV
☐Jogging/running	☐Hunting/Trapping
☐Bicycling	☐Wildlife watching
☐Standing	☑None
☐Sitting	☐Other:
☐Lying down/sleeping	

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐Yes ☑No (If yes, please provide supporting documentation and photos.)

Comments: KH per SR 11Aug14

3. Check any channel obstructions that apply (Attach photos).

☐Culverts	☐Fences	☑Log jams	☐Rip rap	☐Water control structure
☐Barbed wire	☑Dams	☐Thick vegetation	☐Low bridges	☐None
☐Utility pipe	☐Other (specify):			

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

☐Campgrounds	☐Stairs/walkway	☐Roads (paved/unpaved)	☐Other:
☐Playgrounds	☐Boating access (ramps)	☐Populated area	☑None of the above
☐Rural area	☐Beach	☐Docks or rafts	
☐Residential	☐Bridge crossing	☐Commercial outfitter	
☐National forests	☐Commercial boating	☐Trails/paths (hiking/biking)	
☐Urban/suburban location	☐Nearby school	☐Power Line Corridor	
☐Golf course	☐Paved parking lot	☐Parks (national/city/county/state)	
☐Sports Field	☐Unimproved parking lot	☐Public Property	

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

☐Private property	☐Fence	☐No trespass sign	☐Barge/ship traffic
☐Wildlife	☐Industrial	☑Steep slopes	☐None of the above
☐No public access	☐ No roads	☐Other:	

Comments:

6. Check any indications of human use (Attach photos).

☐Roads	☐RV/ATV Tracks	☐NPDES Discharge	☐Organized event	☐Rope swings
☐Camping Sites	☐Gates on corridor	☑No human presence	☐Dock/platform	☐Fire pit/ring
☐Children's toys	☐Foot paths/prints	☐Fishing Tackle	☐Remnants of kids' play	
☐Other:				

Comments:

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Smith Creek Site: SM03

Date: 7/11/2014 Time: 1050

06 Aug 14 KH w/permission from SR

7. Please list any additional items that may impede recreation, such as excessive aquatic vegetation or algae, excessive debris, garbage, snakes, alligators, abundant wildlife, etc.? (Attach photos)

Small garbage. plastics, cans, glass, tire

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos)

Red eared sliders. aquatic bird, small fish, crawdad holes, beaver, beaver dam, tree frog

9. Is the site located in a wildlife preserve with large wildlife (i.e. waterfowl) population? ☐Yes ☑No

10. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

No KH per SR 11 Aug 14

For TIAER Field Use Only

Check all water characteristics that apply (Attach photos).

Aquatic vegetation	☐absent	☐rare	☐common	☑abundant	
Algae Cover	☐absent	☑rare	☐common	☐abundant	
Odor	☐none	☑rare	☐common	☐abundant	
Color	☑clear	☐green	☐red	☐brown	☐black
Bottom Deposit	☑sludge	☑solids	☐fine sediment	☐none	☐other
Water Surface	☑clear	☐scum	☐foam	☐debris	☑oil

Other:

Vertebrates Observed within 300 meter reach

Snakes	☑None	☐slight presence	☐moderate presence	☐large presence
Water Dependent Birds	☐None	☑slight presence	☐moderate presence	☐large presence
Alligators	☑None	☐slight presence	☐moderate presence	☐large presence

Comments:

Mammals Observed within 300 meter reach

Wild	☐None	☑slight presence Beaver	☐moderate presence	☐large presence
Domesticated Pets	☑None	☐slight presence	☐moderate presence	☐large presence
Livestock	☑None	☐slight presence	☐moderate presence	☐large presence
Feral Hogs	☑None	☐slight presence	☐moderate presence	☐large presence

Comments

Evidence of wild animals or evidence of birds, cattle, hogs, etc.

☑Tracks ☑Fecal droppings ☐Bird nests

Garbage Observed

Large garbage in the channel	☐None	☑Rare	☐Common	☐Abundant
Small garbage in the channel	☐None	☐Rare	☑Common	☐Abundant
Bank garbage	☐None	☑Rare	☐Common	☐Abundant

Briefly describe the kinds of garbage observed:

Large- tire

small - glass bottles, cans, trash, plastics

bank - plastics