Field Data Sheets RUAA Survey

(complete for each site)

Start photo # 30

Site: WH01

Data Collectors & Contact Information: Click here to enter text. B Robinson, J. Garcia	
Date & Time: 19 July 16 0940	County Name: Click here to enter text.
Stream Name:	
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. AR 28 Nov 16 AR 28 Nov 16

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

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): Boat only, far from ramp or roads

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).

Rural, lots of duckweed, log & tree debris, water insects & spiders

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

at Hwy 67 Bridge & via Sulphur River

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).

Miles from bridge crossing @ 67 & Boat Ramp

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:

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).

Log & tree debris, ~~[illegible]~~ dense channel veg in place

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).

On WMA, remote

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	40
Width at narrowest point of the stream within 300 meter reach	6
Width at the widest point of the stream within 300 meter reach	70

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:

Copious duckweed
- Egret
- Waterbird
turtle
fish

Bird poop
Bird feathers in the water #46

#30-37

# Measurements			Width (~~meters~~) ft.	Depth
300	1	ULDR	65+	
270	2		70+	
240	3		46+	74m
210	4		16+	
180	5		42+	
150	6	ULDR	9+	
120	7		6+	
90	8		8+	
60	9		8+	
30	10		16+	
0	11	ULDR	53+	

#34 - LB #35 RB
↳ impenitrable brush

#36-39
#40 duckweed

#41 dead fish

#42-45

Hog tracks on banks

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: 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. WMA ↳ @ Sulphur River & 67 only

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:

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

☐Roads ~~☑RWATV~~ 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: limbs cut in some places to facilitate boat passage thru. Channel.

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) Duckweed

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

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

CWMA

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: turtles, fish

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

Bird poop, ~~[illegible]~~ 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: ~~Plastic bo~~ttles

glass bottles

Photo # 14
Waterline on tree
Depth at this tree
is 2.6 m

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH02

Data Collectors & Contact Information: ~~Click here to enter text.~~ B Robinson J Garcia	
Date & Time: 19 July 16	County Name: Click here to enter text.
Stream Name:	
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: JC 28 Nov 16 JC 28 Nov 16

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

Corrected

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): By boat only, far from ramp, no roads

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).

· rural, covered in duckweed, log & twig debris, water insects on surface, & spiders

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

At Hwy 67 bridge & via Sulphur River

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). Miles from Bridge crossing @ 67 & Boat ramp

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:

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). Log & other tree debris, dense channel veg in places.

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). On WMA, remote.

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	55
Width at narrowest point of the stream within 300 meter reach	25
Width at the widest point of the stream within 300 meter reach	74

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

End 0815

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time:

#15-18

Copious duckweed
Dense channel veg
GBH, Songbirds,

logs, limbs, sticks in channel
- ~~[illegible]~~ trotlines

# Measurements			Width (meters)	
300	1	ULDR	25+	
270	2		35+	#19 - Showing inability to see the RB for distance ea
240	3		55+	
210	4		54+	
180	5		58+	
150	6	ULDR	74	#20-23
120	7		47+	
90	8		50+	
60	9		43	
30	10		59	
0	11	ULDR	65+	#24-27

#28 - Hog wallow on RB

#29 - trot line

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: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.~~ ↳ At Sulphur River L 67 only

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:

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: Timbs cut to facilitate boat ~~traff~~ passage through dense channel veg. in places

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) lots of Duckweed

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

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

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

CommentsClick here to enter text.

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

☐Tracks ☑Fecal droppings ☐Bird nests

Bird poop, Hog Wallow

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~~

glass bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH03

Data Collectors & Contact Information: Click here to enter text. S Robinson, J Garcia	
Date & Time: 19Jul16 0715 CST	County Name: Click here to enter text.
Stream Name: 0745 end	
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. AR28NOV16 AR28NOV16

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

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

☐ 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): Boat only, dense channel veg, miles 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).

NA

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

~~NA~~ WMA - walk in only, no road 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:

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). Abundant duckweed, No access but by boat or WMA walk-in.

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: See previous explanation

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). Log debris, duckweed, rural,

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). Far from boat ramp @ Sulphur River or other roadside crossings, WMA very wooded & large, no roads to water

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	35
Width at narrowest point of the stream within 300 meter reach	31
Width at the widest point of the stream within 300 meter reach	58

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:

Photo #1 = Brushy Creek entrance, not passable

2-5

Copious duckweed

# Measurements			Width (meters)	Depth
300m	1	ULDR	36 m	3.5m
270	2		34	
240	3		38	
210	4		32	
180	5		36	
150	6	ULDR	38	
120	7		49	
90	8		58	
60	9		35	
30	10		31	
0	11	ULDR	46	

photos # 6-9

-water moccasin photos # 10-13

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: 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.~~ At Hwy 69 & Sulphur river only

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: Thick vegetation in channel, miles from public road Xing or boat ramp.

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: Some branches appear cut to facillitate boat passage through channel veg.

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) turtles, water dependent Birds, fish, water moccasin

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

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: 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: Turtles, fish

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: ~~Plastic bottles~~ Glass bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH05

Data Collectors & Contact Information: SR, JG	
Date & Time: 23 June 16	County Name: Click here to enter text.
Stream Name:	
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.

JR 30 Aug 16 ☑ 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): Bordered by WMA, no bank access, boat from 259 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).

Muddy, brown, debris floating, snakes, requires boat to get to site.

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

only @ 259

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 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) 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). only access from 259

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 NA

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). See # 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). See A.5

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	>50
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	>51

could never definitively see the waters edge

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:

#Pic 53 - otter/beaver lodge (NOT in this reach but US from)

# Measurements	Width (meters)		
1	0	>50m	Cannot see edge
2	30	>50m	"
3	60	>50m	"
4	90	>50m	" #58 - water Edge non-visible
5	120	>30m	"
6	150	>45m	" #59 - 62 UCDR
7	180	>40m	"
8	210	>30m	" #
9	240	>32m	"
10	270	>51 m	"
11	300	>40 m	" #63 - 66 UCDR

#54-57 UCDR

small fish
Duckweed abundant
turtle
snake
GBH (heard)

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). AR 23 June 16

☐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: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 AR 23 June 16
☐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:

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: Trot/Drop lines

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

WH CUMA

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: 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: Small fish, turtle

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: Plastic bottles glass bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH06

Data Collectors & Contact Information: Click here to enter text.	
Date & Time: 23 June 16 0250	County Name: Click here to enter text.
Stream Name:	
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:

Corrected Epd

☐ 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.

30 Aug 16 JRG

~~☑ 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): Bordered by WMA, no bank access, boat access only from 259

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).

muddy, brown, floating debris, requires boat to get to site

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

only @ 259

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). only 25 9 access

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). ~~See A5~~ OR See #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). See A5

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	37
Width at narrowest point of the stream within 300 meter reach	>20
Width at the widest point of the stream within 300 meter reach	>70

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	0	42
2	30	54
3	60	31
4	90	>20
5	120	31
6	150	725
7	180	>30
8	210	>30
9	240	>30
10	270	>70
11	300	44 m

#49-52 ULDR

#45-48 ULDR

#40-43 ULDR

GBH ///

Small amts of duckweed common #44

Small fish

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: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: Thick bank veg

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

☐Roads NO ☒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

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)

Excessive in-stream veg

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

WOWMA

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

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: ~~Plastic bottles~~ NO

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH07

Data Collectors & Contact Information: Click here to enter text. SR, SG	
Date & Time: 23 June 16 0110 CST	County Name: Click here to enter text.
Stream Name:	
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

DR 28 NOV 16

Corrected EPS

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): Only accessible by boating from 259

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).

NO access except by boat @ 259

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

Public Boat ramp @ 259

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).
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: 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). Difficult access, muddy 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). On WMA, no roads, banks densely vegetated, slick & muddy

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	30 m
Width at narrowest point of the stream within 300 meter reach	NA
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: WH07

Site:

Date:

Time:

#36-39 ULDR

#32-35 ULDR

# Measurements	Width (meters)	
1	0	>21
2	30	>27
3	60	718
4	90	715m
5	120	715 m
6	150	25+ Cant see RB thru veg.
7	180	22+
8	210	20+m Can't see bank (RB)
9	240	30 m
10	270	30+
11	300	30 +m Cannot see banks through vegetation

#28-31 ULDR

Duckweed common

Clamshells

Crawfish burrow

heron (GBH)

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: 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. muddy banks, dense veg bank
Comments:

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

☐Roads no ☒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: Trot / Drop lines

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) NA

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

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

WOWMA

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: GBH

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: Plastic bottles

#1

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH08 @259

Data Collectors & Contact Information: SR JG	
Date & Time: 23 June 16	County Name: Click here to enter text.
Stream Name:	
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.

Corrected Eff

☒ 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.	
LR	Mowed/maintained corridor		Denuded/Eroded bank		

@259

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): HWY 259

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).

N/A

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

Boat ramp @ 259

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). NA

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: 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). NA

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). NA

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	29
Width at narrowest point of the stream within 300 meter reach	28
Width at the widest point of the stream within 300 meter reach	44

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	0	32
2	30	31
3	60	29
4	90	28
5	120	31
6	150	43
7	180	29
8	210	29
9	240	34
10	270	44
11	300	>33m cannot see waters edge at LB from boat. #13-16 ULDR

23-26 ULDR

Bridge → 18-21 ULDR

19
23
42
28
70

Water dependent bird

bobber in tree. #17 photo

raccoon tracks.

Egret #22 photo

Dead fish in water

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: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. At 259 bridge & within WBW MA

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:

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: Boat launch area, cigarette butts, aluminum cans scattered

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) NA

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

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

WOWMA

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 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: ~~Plastic bottles~~ aluminum cans, styrofoam, plastic bottle, cigarette butt pile

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH09

Data Collectors & Contact Information: SR TG	
Date & Time: 23 June 16 1256 CST	County Name: Click here to enter text.
Stream Name:	
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	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): accessible by boat only from 259 Bridge when water levels are higher than normal

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 NA

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, snakes, need boat to ~~get~~ get to site

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

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). NA

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: 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). NA

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). in WMA where no roads exist.

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.

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: _____

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	25
Width at narrowest point of the stream within 300 meter reach	22
Width at the widest point of the stream within 300 meter reach	33

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:

*Logiam, could not reach original WH09. Created new waypoint "NEW WH09"

# Measurements	Width (meters)		
1	0	22	9-12 OLDR
2	30	24	
3	60	26	
4	90	33	
5	120	24	
6	150	~~28~~ 28	5-8 OLDR
7	180	26	
8	210	24	
9	240	24	
10	270	27.5	
11	300m	28m	#1-4 OLDR

14
17
1
3

Turtles
crawfish burrows
fish
beaver tracks

Plastic bottle

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: 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. In wildwood, accessed at 259 boat ramp

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: Rural

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. 4 rot/drop lines
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)

NA

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

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

WMA

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 (some small)	☐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: Did observe WDB's on way to site. L7 & snakes.

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

beaver

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

plastic bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH11

Data Collectors & Contact Information: Click here to enter text. SR lt	
Date & Time: 23 June 2016 8:13am CST	County Name: Click here to enter text.
Stream Name: White Oak Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text. 0303B	
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	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): no Road access - access only by boat OR through densely vegitated WMA - 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).

See previous A.5

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

no Road 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.

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).
See previous A.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 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).
See previous A.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).
See previous B.3

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	>1.5
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	>1.5

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	21
Width at narrowest point of the stream within 300 meter reach	16.5
Width at the widest point of the stream within 300 meter reach	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:

(27-30) ULDR —

33-36) ULDR

(37-40) ULDR

# Measurements	Width (meters)
0m 1 300m	18m
30m 2 270m	18.5m
60m 3 240m	21m
90m 4 210m	21.5m
120m ~~60m~~ 5 180m	21
150m 6 150m	20.5m
180m 7 120m	21m
210m 8 90m	22m
240m 9 60m	16.5m
270m 10 30m	18m
300m 11 0m	20m

Owl

glass bottle

empty ice chest/cooler

feather

Snake ~~HH~~

dead fish

fish

turtles

picture 31 & 32 - snake in tree

*Field notes - new waypoint made due to obstacle - named ("new WH11")

trotlines - not in 300m reach of WH13-11

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: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:

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:

No Fishing tackle
MC 23 Jun16

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

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).

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 Click here to enter text.

23 June 16

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

☑Tracks ☐Fecal droppings ☐Bird nests

23 June 16

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~~

glass bottle
empty ice chest/cooler

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH12

Data Collectors & Contact Information: Click here to enter text. SR lt	
Date & Time: 23 June 2016 7:41am CST	County Name: Click here to enter text.
Stream Name: White Oak Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text. 0303B	
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): accessible only by boat, no Road access or through thick vegitation in WMA

6. Dominant Primary Substrate

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

Stick, Slippery 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).

See previous A.5

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

no Road access - only access through dense vegitation as par- of the WMA

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) 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).

See previous A.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 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).

See previous A.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). See previous B.3

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	>1.5
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	>1.5

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	34
Width at narrowest point of the stream within 300 meter reach	22.5
Width at the widest point of the stream within 300 meter reach	39

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)
15-18 (~~14-17~~) ULDR	1 300m	37m
	2 270m	35.5m
	3 240m	34m
	4 210m	34m
	5 180m	39m
19-22 (~~18-21~~) ULDR	150m 6 ~~90m~~	35m
	7 120m	34m
	8 90m	27.5
	9 60m	22.5
23-26 (~~22-25~~) ULDR	10 30m	32m
	11 0m	28m

Snake 1

fish

frogs

Picture 14- log jam (not in 300m Reach- Obstacle to get to site WH12)

water dependent bird

turtles

hogtracks

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: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. thick vegitation
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:Click here to enter text.
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

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

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 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: ~~Plastic bottles~~

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH13

Data Collectors & Contact Information: Click here to enter text. SR lt	
Date & Time: 23 June 2016 7:01am CST	County Name: Click here to enter text.
Stream Name: White Oak Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text. 0303B	
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): no Road access only accessible by boat - steep slippery banks, thick vegitation

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).
See previous - A.5

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
no Road access, access through densley vegitated wildlife management area

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) 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).
See previous-A.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 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).
See previous A.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). See previous B.3

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	>1.5
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	>1.5

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	14
Width at narrowest point of the stream within 300 meter reach	11.5
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)
(1-4) ULDR	1 300m	25m
	2 270m	19m
	3 240m	16m
	4 210m	17m
(5-8) ULDR	5 180m	15.5m
	6 150m	14.5m
	7 120m	11.5m
	8 90m	17m
	9 60m	25m
(9-12) ULDR	10 30m	26m
	11 0m	13m

trot lines

Snake 11

Steep banks

Receded water

water dependent birds

bird poop on banks

Raccoon tracks

hog tracks / wallow

crawfish burrow

picture 13 - hog wallow

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: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: thick vegitation

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. ✓ fishing ~~tackle~~ trot lines
Comments:

trot lines

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, fish, & debris from trees

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

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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 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: ~~Plastic bottles~~

@WMA Road Hill Hole

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH15 14 28 June 2016

Data Collectors & Contact Information: Click here to enter text. 2:50pm CST SR lt	
Date & Time: 22 June 2016 2:40pm	County Name: Click here to enter text.
Stream Name: White Oak Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text. 030313	
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): public boat ramp

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).

thick vegitation, snakes

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

public boat Ramp

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)

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). ~~n/A~~ See previous A.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 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).

See previous B.3/A.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). See previous B.3

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: WH-5 14

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	>1.5
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

.22 casings
lamp-trash
fish skeleton
cigarette butts
plastic bottles

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	25.5

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)
ULDR	1 0m	17m
	2 30	24m
	3 60	18m
	4 90	16m
	5 120	16m
ULDR	6 150	16m
	7 180	20m
	8 210	17m
	9 240	16.5m
	10 270	22m
ULDR	11 300	25.5m

~~Snake 1~~ snake 1111

Skunk tracks

bricks on bank

Rebar

low hanging trees in/over water

ducks

Picture 24 - Snake in water @ 0m

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) paved road lead to parking lot. ☐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) W.O. WMA
☐Sports Field ☐Unimproved parking lot ☐Public Property

lt 15 August 2016

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:

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: , 22 casings

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) trees in water

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

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

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

22Jan16

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~~

Cigarette butts
Plastic bottles
.22 casings
rebar
Bricks

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH15

Data Collectors & Contact Information: Click here to enter text. SR lt	
Date & Time: 22 June 2016 2:16pm CST	County Name: Click here to enter text.
Stream Name: White Oak	
Segment No. or nearest downstream Segment No.: Click here to enter text. 0303B	
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): Slippery banks w/ thick vegitation - no access 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).

non-wadeable - see previous A.5

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

public access 1,000+ meters at Road crossing - only accessible via boat

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. public boat ramp

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). 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: 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). 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). See previous B 3

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	>1.5
30 meters	>1.5
60 meters	>1.5
90 meters	>1.5
120 meters	>1.5
150 meters	>1.5
180 meters	>1.5
210 meters	>1.5
240 meters	>1.5
270 meters	>1.5
300 meters	>1.5
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	14
Width at narrowest point of the stream within 300 meter reach	11
Width at the widest point of the stream within 300 meter reach	19

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)
ULDR	1 0m	11m
	2 30m	13m
	3 60m	18m
	4 90m	16m
	5 120m	15m
ULDR	6 150m	14m
	7 180m	12.5m
	8 210m	14.5m
	9 240m	19m
	10 270m	15m
ULDR	11 300m	15m

turtles
Snakes!!!!
hog in water
frogs
fish

~~picture~~

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: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: thick vegitation

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:

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) excessive debris snakes, hog

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

from high water that has receded, lemons, logs

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 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: ~~Plastic bottles~~

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH16

Data Collectors & Contact Information: Click here to enter text. SR JG LT	
Date & Time: 22 June 2016 9:11 AM CST	County Name: Titus
Stream Name: White Oak Creek	
Segment No. or nearest downstream Segment No.: Click here to enter text. 030313	
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): Private property - 2 miles in - past 3/5 gates - very steep banks - very slippery banks - thick vegetation outside 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: 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).

See previous A.5

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

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: _____

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 n/A
☐ 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 previous A.S

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).
See previous A.S

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 previous A.S

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: White Oak Site: WH16

Date: 22 June 2016 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)
ULDR	0 meters	>1.5
ULDR	30 meters	>1.5
	60 meters	>1.5
	90 meters	>1.5
ULDR	120 meters	>1.5
ULDR	150 meters	>1.5
	180 meters	>1.5
	210 meters	>1.5
	240 meters	>1.5
	270 meters	>1.5
ULDR	300 meters	>1.5
	Average	>1.5

field note - notes taken on page 6

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	19.32
Width at narrowest point of the stream within 300 meter reach	15
Width at the widest point of the stream within 300 meter reach	~~20~~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 ✓

*Right bank taken from top of bank looking down @ water

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name:

Site: WH16 (21 pictures)

Date:

Time:

	# Measurements	Width (meters)	
(1-4) ULDR	1 0m	19m	Bank height - 10m
(6-9) ULDR*	2 30m	19m	" 10m
	3 60m	19m	"
	90m 4 ~~120m~~	25m	- 10m
(10-13) ULDR*	120m 5 ~~150m~~	21m	- bank height 9m
(14-17) ULDR	150m 6 ~~180m~~	19m	~~bank height~~
	180m 7 ~~210m~~	16.5m	
	210m 8 ~~240m~~	19.5m	
	240m 9	19.5m	
	270m 10	15.m	
(18-21) ULDR	300m 11	20m	

Raccoon tracks

deer feeder/blind - pic 5 (w/dog)

beaver tracks

crawfish burrow

Shot gun shells

bird poop

minnows

plastic bottle

Shell

chip bag trash

crawfish holes

down tree @ 300m

hand towel in tree

ATV tracks near bank

feather

bird poop

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:

laid over tree @ 300m

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): outside bank

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:

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: deer blind and deer feeder

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) minnows

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

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 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: ~~Plastic bottles~~ Plastic bottle, chip bag

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH17

Data Collectors & Contact Information: Click here to enter text. SR JG lt	
Date & Time: 22 June 2016 11:24AM CST	County Name: Click here to enter text. Titus
Stream Name: White Oak	
Segment No. or nearest downstream Segment No.: Click here to enter text. 0303B	
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	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): private property - about 2 miles in property behin 3 gates - slick, steep banks, thick vegitation

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).

See previous - A.5

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

Private 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.

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).
See previous A.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 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).
See previous A.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). See previous A.5

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	>1.5
30 meters	>1.5
60 meters	>1.5
90 meters	>1.5
120 meters	>1.5
150 meters	>1.5
180 meters	>1.5
210 meters	>1.5
240 meters	>1.5
270 meters	>1.5
300 meters	>1.5
Average	>1.5

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	13
Width at narrowest point of the stream within 300 meter reach	12
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: _____

(34-37) (~~35-38~~) ULDR

# Measurements		Width (meters)	
0m	1 ~~30m~~	12m	
~~60~~ 30m	2 ~~60m~~	14m	-10m bank height
60m	3 ~~90m~~	12m	
90m	4 ~~120m~~	13m	-bank height 5m
120m	5 ~~150m~~	15m	
150m	6 ~~180m~~	12.5m	-bank height 3m
180m	7 ~~210m~~	13m	
210m	8 ~~240m~~	14m	-3m (bank height)
240m	9 ~~270m~~	12m	
270m	10	12m	
300m	11	13m	bank height - 9m

29-32 ULDR

(2~~2~~-25) ULDR

Shot gun shell ~~on~~ outside bank

dead crawfish

feather II

barb wire in tree

armadillo tracks

cattle tracks

turkey tracks

possum tracks

bird poop

squirrel tracks

steap, slick banks

canine tracks

snake - water II

cow bones

tree stand

crawfish hole

poison ivy

beaver tracks

frogs

hatched turtle eggs ~~shells~~

Pict. 26 - Jacob @ bank w/ wading rod - height - 3m @210m

Pict. 27 - tree stand

Pict. 28 - Rat snake @ 150m

Pict 33 - Sarah @ bank w/ wading rod @ 90m

~~Pict 34 crawfish burrow~~

38 - crawfish burrow

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: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:

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: deer, tree blind, Shotgun Shells

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).

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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

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: Plastic bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH20

Data Collectors & Contact Information: Click here to enter text. S. Robinson L Taylor	
Date & Time: 19Jul16 1605	County Name: Click here to enter text.
Stream Name:	
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, slippery banks, thick vegitation

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).

depth, logs, steep, slippery banks - thick vegitation on banks

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

access via dirt boat ramp @ FM1902

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).

See previous (B.2)

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).

See previous (B.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). See previous (B.3)

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 UCDR	~~0.2~~ 0.23	34-37
30 meters	0.43	
60 meters	0.21	
90 meters	0.13	
120 meters	0.22	
150 meters UCDR	0.21	#30-33
180 meters	0.21	
210 meters	0.12	
240 meters	0.22	
270 meters	0.11	
300 meters	0.25	
Average UCDR	~~0.2~~	#27=~~30~~ 29 = LDR

avs ~~0.27~~ 0.21

metal bucket
Bird poop
Raccoon trx
Hog trx
Crawfish holes
clam shells
tire //
feather
tractor seats
deer
Submerged logs

picture 38
upstream
@ 300m

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	~~11-2~~ 2m
Width at the widest point of the stream within 300 meter reach	~~.43~~ 4m

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 ____

trotline
aluminum cans
glass bottles

wallet w/store cards

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: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:

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: wallet, trot lines, tires, metal bucket

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) hog tracks raccoon tracks

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

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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 logs
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 Click here to enter text.

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

☑Tracks ☐Fecal droppings ☐Bird nests

Corrected Eps

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 in channel, aluminum cans glass bottles

@1905

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH21

Data Collectors & Contact Information: Click here to enter text. S. Robinson L Taylor	
Date & Time: 19JUL16 1530	County Name: Click here to enter text.
Stream Name:	
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	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): Accessible only from DS Dirt Boat ramp, non-wadeable depths require boat, banks steep & slick & high

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).

See PRU.

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

Dirt boatramp DS from site/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. 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).
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 N/A

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: See prev.

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). only @ dirt boat ramp DS from site. requires boat but lots of debris in water

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	14
Width at narrowest point of the stream within 300 meter reach	7
Width at the widest point of the stream within 300 meter reach	23

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: _____

Metal culvert #17

5 gal bucket

crawfish holes

Cliff swallows & nests under bridge

Canepole #18

fish big

turtle

fish small

Snake

300m is Bridge

floating leaves & twigs

Water brown

Steep banks

feather in water

Plastic bottles

aluminum cans

# Measurements			Width (meters)	Depth	
300	1	ULDR	13	0.7	#13-16
270	2		23	1.5	
240	3		15	1.85	1.9
210	4		15	1.85	1.9
180	5		14	1.5	
150	6	ULDR	20	2.2	#19-22
120	7		14	0.9	
90	8		7	0.6	
60	9		7	0.4	
30	10		7	0.6	
0	11	ULDR	7	0.5	#23-26

~~1.14~~

Avg. 1.15

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: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.~~ Dirt boat ramp @ 1902 just before bridge (South)

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:

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: Cane pole (photo taken)

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) excessive debris

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) turtles, small & large fish, crawfish hole water snake

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 Click here to enter text.

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

☐Tracks ☐Fecal droppings ☑Bird nests nests & birds under bridge feather in water

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~~

Plastic bottles, alum cans, metal culvert

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH22

Data Collectors & Contact Information: Click here to enter text. S. Robinson L. Taylor	
Date & Time: 19 July 16 1400	County Name: Click here to enter text.
Stream Name:	
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	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): Steep slope for boat deployment, lots of debris submerged

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).

Muddy water, clay, mud, steep slick banks, lots of submerged logs & debris

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

yes, Dirt boat ramp @ 1902

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). 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). 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). only at road by bridge

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	12
Width at narrowest point of the stream within 300 meter reach	10
Width at the widest point of the stream within 300 meter reach	21

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: _____

small fish
crawfish holes
bird poop
turtle

sunken log debris & stumps

deer tracks
pig tracks
raccoon

# Measurements			Width (meters)	Depth	
300	1	ULDR	19	1.5	#s 1-4
270	2		15	0.8	
240	3		17	1.2	
210	4		12	0.9	
180	5		10	1.7	
150	6	ULDR	13	0.9	#5-8
120	7		12	0.7	
90	8		12	1.7	
60	9		12	0.8	
30	10		15	0.8	
0	11	ULDR	21	0.9	#9-12

→ power line right-of-way

avg 1.08

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: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) Down to water from 1902
☐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 AR 19 July 16
☐No public access ☐ No roads ☐Other:Click here to enter text.
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:Click here to enter text.
Comments: ~~Foot tracks in trees~~ AR 19 July 16
path from 1902 to water
boat to site from there

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) NA

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

Turtle, crawfish holes, 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).

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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 Click here to enter text.

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

☒Tracks ☒Fecal droppings ☐Bird nests

Bird poop, Tracks: Deer, hog, 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: ~~Plastic bottles~~

Field Data Sheets RUAA Survey

(complete for each site)

Pics #11 & 12 & 13

Site: WH023 Logiam & scum/debris

Data Collectors & Contact Information: Click here to enter text. S. Robinson J Garcia & R B	
Date & Time: 20Jul16 0844cst	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

Steep Banks

*made it 1164 m from site

Cannot access this point.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

Depth 71.5

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):

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).

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? 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).

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 ☐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: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:

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:

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

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: Plastic bottles

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH24 @ 271

Data Collectors & Contact Information: Click here to enter text. S. Robinson J. Garcia	
Date & Time: 20 July 16 0900 CST	County Name: Click here to enter text.
Stream Name:	
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): Non-wadeable, steep slick banks @ bridge, tall vegetation. deployed boat using rope and retrieved it using rope & truck to pull.

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).

Water dirty & muddy, scum, foam, debris floating & submerged difficult access.

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

At Hwy 271 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. 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). NA

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 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 AS

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	30
Width at narrowest point of the stream within 300 meter reach	12
Width at the widest point of the stream within 300 meter reach	38

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 ✓

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Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

centered Epi

excessive
duckweed &
other floating debris
Logiam @ -0-

multiple wildlife
trails into channel
#18
bird feathers
large fish
small fish
scum
foam
Otter or Beaver tracks

Aluminum cans
riprap under bridge

# Measurements		Width (meters)			Photos
-0	1	ULDR	20	>1.5	14-17
30	2		30 m	>1.5	
60	3		32 m	>1.5	
90	4		38	>1.5	
120	5		15 m	>1.5	
150	6	ULDR	16	>1.5	#19-22
180	7		19 m	>1.5	
210	8		20m	>1.5	
240	9		22 m	>1.5	
270	10		29m	>1.5	
300	11	ULDR	24m	>1.5	

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: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:

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:

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) Excessive floating debris,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Small & Large fish, Otter/Beaver 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).

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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 Click here to enter text.

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

☑Tracks ☐Fecal droppings ☐Bird nests

Otter/Beaver

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, Aluminum Cans,

added app

Field Data Sheets RUAA Survey

(complete for each site)

logjam prevented getting to WH25
*made new waypoint 20Jul16-WH25
conducted @ screen 150-0

Site: WH25

Data Collectors & Contact Information: Click here to enter text. S Robinson J. Garcia	
Date & Time: 20Jul16 0810 cst	County Name: Click here to enter text.
Stream Name:	
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, PP. upstream from Bridge crossing

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). muddy, submerged logs & flood debris, muddy water, steep slick banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
apx 350 m DS access @ 271 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. 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). 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 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). 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). No Roads, only by boat & boat is difficult b/c log debris

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	14
Width at narrowest point of the stream within 300 meter reach	13
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 → could not access 150-300 m Transects because Log jam, non-wadeable depths & steep slide banks

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements			Width (meters)	Depth	
~~300~~	1	0	ULDR 16	71.5	#7-10
~~270~~	2	30	24	1.02	
~~240~~	3	60	16	71.5	Submerged debris #6
~~210~~	4	90	17	71.5	Logjam #5
~~180~~	5	120	18	71.5	
~~150~~	6	150	ULDR 15	1.22	#1-4
	7				
	8				
	9				
	10				
	11				

Could not access

avg 1.3

0-m transect is ≈ 213 m from WH24

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): Submerged log & limb 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:

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:

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) NO

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 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: ~~Plastic bottles~~

Field Data Sheets RUAA Survey

@ FM 2100

(complete for each site)

Site: CUH26

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J Garcia, L Taylor	
Date & Time: 20 July 16 1013 cst 1100 cst	County Name: Click here to enter text.
Stream Name:	
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): Access @ 2100, vertical slopes, steps chinked out w/ tool.

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).

Shallow in places, lots of garbage & sharp pieces of glass & metal, steep slopes, sinking mud, smelly

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

@2100 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 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).
NA

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). 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). Steep slope e bridge, pp not of way w/ signage.

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.

2 Hogs @ ≈ 30 m #12 & 13
Clam shells
Crawfish
feather
bird droppings #7
Small fish
Dead crawfish
Beam cutting
hog wallow
Tracks
Raccoon
Hog

Distance	Depth (meters)
0 meters ULDR	0.84 #14-17
30 meters	0.8
60 meters	>1.5
90 meters	0.66
120 meters	0.48
150 meters ULDR	0.26 #1-4
180 meters	>1.5
210 meters	0.7
240 meters	0.5
270 meters	0.96
300 meters ULDR	0.48 #8-11
Average	0.79

#5 - TV Trash
#6 - Kid bike

Just Before the Bend to the left

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.

Snake

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.5
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	10

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

Excessive garbage @ & under bridge, TV, old oscillating Fan, many tires
smelly - dead stuff
* steps chinked out of bank @ bridge w/a tool, like a shovel
Bottom sandy
* multiple fallen trees across channel
glass bottles, aluminum
Large steel, Hog skull, old artificial christmas tree

glass door
mattress
carpet
Plastic tarp #18
Water hose
Household 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:

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): Garbage

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:

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: Garbage @ bridge & Downstream

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) Clam shells, crawfish burrows & carcasses, 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).

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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 Click here to enter text. 2 hogs seen (photos taken)

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

☑Tracks ☑Fecal droppings ☐Bird nests

Hog, Raccoon → 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: Plastic bottles, glass, aluminum cans.

Large: cement, concrete & rebar chunks, multiple tires & television sets

- Household trash in bags
- discarded tarp, carpet, screen doors & glass door ... See Pg. 5 for the rest.

* NO ACCESS *

DS from 37

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH27

Data Collectors & Contact Information:Click here to enter text. S. Robinson, J. Garcia, LT	
Date & Time: 20 July 2016 1220 CST	County Name:Click here to enter text.
Stream Name:	
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):

6. Dominant Primary Substrate

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

could not boat b/c logjam (photo)
Encountered non-wadeable depth on the way DS from bridge when attempting to reach site.
Banks are steep (near vertical) bank veg is thick on both RB & LB. could not access this site.

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).

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? 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).

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 ☐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: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:

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:

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).

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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

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:

@HWY 37

Field Data Sheets RUAA Survey

(complete for each site)

Site: CW428

Data Collectors & Contact Information: Click here to enter text. SR, JG, lt	
Date & Time: 20250416 1200 cst 1245 cst	County Name: Click here to enter text.
Stream Name:	
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): tall veg @ HWY Bridge steep sticky slopes, deep mud, pp fence on E side, ~~[illegible]~~

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).

Shallow @ bridge but non-wadeable in spots, deep mud, brown water, concrete & rebar under bridge & slick steep banks, dense veg at top of banks

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? 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) 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).
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?
☐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). NA

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). ~~NA~~ only @ 37 bridge

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.

Hog wallows
Deer tracks
Hog tracks
Raccoon tracks

Small fish
Bird droppings

Distance	Depth (meters)	
0 meters	UUDR 1.3	# 1 - 4
30 meters	0.4	
60 meters	71.5	
90 meters	0.56	
120 meters	0.32	
150 meters	UUDR 1.20	#9 - 12
180 meters	0.24	
210 meters	1.0	
240 meters	1.08	1.1
270 meters	0.44	
300 meters	UUDR .36	#13 - 16
Average	~~0.76~~ 0.77	

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	2.0 m
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

foam, scum, chad smell
sinking mud, up to knees
large log jams, submerged debris
glass jars

#5: DS @ 30m showing the conditions keeping us from WH27. with non wadeable depths

#6-8: sticks on banks, fishing anchors.

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: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: Limited pub. access

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: photos taken of sticks stuck in banks, in a row w/ forks at top for staking out fishing lines.

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) Excessive log jams & submerged debris, dense bank veg, bad smell,

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

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 Click here to enter text. NA

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

☑Tracks ☑Fecal droppings ☐Bird nests Bird droppings

Hog, Raccoon, deer, Hog wallows

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, Aluminum cans, glass bottles.

Could not Access water @ This site

Field Data Sheets RUAA Survey

(complete for each site)

JH

Site: WH29

Data Collectors & Contact Information: Click here to enter text. SR, JG, et	
Date & Time: 22 July 2016 07:13 CST	County Name: Click here to enter text.
Stream Name:	
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):

6. Dominant Primary Substrate

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

Not Accessible
tall pasture & vegetation made road/path to creek indistinguishable. took a long time to find side due to veg change since recon. Polaris fell in hole hidden by tall veg. Multiple trees had fallen across path. were able to move some but one was too large. at site, Bamboo too thick to pass through to access the 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).

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? 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).

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	

Picture 1 - tall grass on way to site

Picture 2 - over grown bamboo and vegitation at site

Picture 3 - log w/polaris blocking ~~entry~~ to creek path

Picture 4 - "Road" to creek

Picture 5 - "Road to creek

Picture 6-8 - hole on "Road" to creek - where polaris got stuck

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:
☐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: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:

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:

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

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: Plastic bottles

A @ 900 - Public Crossing
Photos # 1 & 2. No Rec.

@ 900

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH30

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J Garcia, L Taylor	
Date & Time: 22 July 16 1130 CST	County Name: Click here to enter text.
Stream Name:	
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.	
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): Right-of-way @ HWY 900

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).

Muddy banks & water, dead hog floating under bridge.

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

@ 900

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). 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 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). Shallow depths

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). NA

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)

Dead Hog under Bridge Photo #3

Stream Name: Site: WH30

Date: Time:

Stagnant odor

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 poop
frogs
crayfish burrows
crawfish
small fish
snake
Hog wallow
turtles.
poison ivy
Traces
Raccoon
Beaver/otter photo # 8 #
big fish w/something in his/her mouth
feathers

Distance	Depth (meters)	
0 meters	ULDR 0.7	#11-14
30 meters	1.3	
60 meters	1.08 (1.1)	
90 meters	1.2	
120 meters	1.32 (1.3)	
150 meters	ULDR 0.38	#4-7
180 meters	1.24 (1.2)	
210 meters	1.00	
240 meters	.82	
270 meters	.46	
300 meters	ULDR .64	#15-18
Average	0.92	

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	16m
Width at narrowest point of the stream within 300 meter reach	13m
Width at the widest point of the stream within 300 meter reach	~~13m~~ 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

Sucking mud
Concrete & rebar submerged @ bridge.
#10 barrel?

Some moss
" foam
Brown water
Duckweed

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: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: muck in banks & bottom, dead hog, 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:Click here to enter text.
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

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) See page # 5

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 Click here to enter text.

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

Raccoon Hog unkn. ☑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: ~~Plastic bottles~~

*made new waypoint 22JUL16-WH31

5.m.

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 31

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L Taylor, J Garcia	
Date & Time: 22JUL16 0953	County Name: Click here to enter text.
Stream Name:	
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): 1.5 mile from pub road, thru locked gate on PP. dense veg. Steep slopes, slick

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).

See prev.

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? 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). 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 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). 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).

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:

odor in mud

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	270		0.56	
30 meters	300		0.56	
60 meters	0	ULDR	0.56	#14-16
90 meters	30		0.34	
120 meters	60		0.26	#5 Hog trx
150 meters	90 bridge	ULDR	0.34	#1-4
180 meters	120		0.62	
210 meters	150	ULDR	0.42	#22-25
240 meters	180		0.33	
270 meters	210		0.48	
300 meters	240		0.22	
Average			0.43	

Watermocasin 1
Tracks
Hog, Crawfish
Raccoon
Otter tracks
Clamshells
frogs
Water snake #6-12
Logjam #13
watersnake (little franklin) #19-21
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	9
Width at narrowest point of the stream within 300 meter reach	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

Bird poop
5gal bucket #26
Silt fence
Hog Wallow

Sinking mud
tree debris
Submerged tree 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:

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: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:

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:

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) poisonous snake, excessive debris
2 watersnakes

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

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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 Click here to enter text.

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

☑Tracks ☑Fecal droppings ☐Bird nests

Hog, Raccoon Birds

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~~ silt fence, plastic bucket

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH32

Data Collectors & Contact Information: Click here to enter text. S. Robinson / J. Garcia	
Date & Time: 21 July 16 1032 CST	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

(RoMa)

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): PP, closed gate ≈ 1 mile from public 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).

Muddy banks & bottom, Steep banks, submerged logs & logjams floating debris

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? 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). 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 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). 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). No Road, 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.

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
snake
bird droppings
crawfish below
Tracks
Deer
Raccoon
otter tracks
watermocassin//
Hog
clamshells
poison ivy
crawfish, Hog wallow

Distance	Depth (meters)
0 meters	ULDR 0.48
30 meters	0.4
60 meters	0.35
90 meters	0.7
120 meters	0.76
150 meters	ULDR 0.54
180 meters	0.82
210 meters	0.56
240 meters	0.92
270 meters	0.8
300 meters	0.86
Average	0.65

#5–8

log jam – #1–4

#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	10
Width at narrowest point of the stream within 300 meter reach	7
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~~

tires
excessive 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:
☐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: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:

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:

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)

Poisonous snakes? Excessive Debris, poison ivy

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

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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 Click here to enter text.

Raccoon
Hog
Otter

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: ~~Plastic bottles~~

tires

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH33

Data Collectors & Contact Information: Click here to enter text. S. Rogerson, J. Garcia	
Date & Time: 2/5 July 16 1147 CST	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

(RoMa)

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	RB 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): PP, ATV only ≈ 1 mile from County Road, steep banks, deep mud, Thick Bank 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. NA

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

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) 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). 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 NO

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). 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.

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.

Bird droppings
Watermoccasin
Clamshells
crawfish
coursones #23
nest above creek
Log Wallows
Beaver gnawed limb
frogs
#25 Jam - log
Tracks
hog
Raccoon
Otter tracks & Slide

Distance	Depth (meters)		
0 meters	ULDR	0.8	#19 - 22
30 meters		0.48	#18 Birdnest
60 meters		0.38	
90 meters		0.8	
120 meters		0.6	#17 - logjam
150 meters	ULDR	0.44	#13 - 16
180 meters		0.48	
210 meters		0.74	
240 meters		0.6	
270 meters		0.8	
300 meters	ULDR	1.0m	#24 - 27
Average		0.65	

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	9m
Width at narrowest point of the stream within 300 meter reach	3m
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

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:

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: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:

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:

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)

water moccassin

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

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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

CommentsClick here to enter text.

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

Raccoons
Hog
Otter

☑Tracks ☑Fecal droppings Birds ☑Bird nests (photo taken)

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

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH34

Data Collectors & Contact Information: S. Robinson, J. Garcia	
Date & Time: 21 July 16 1220 CST	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

RoMa

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 Forest	Urban	Rip rap
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): PP, Closed gate, no roads, ATV only, 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. No

b. Check the number of individuals observed at the site:
☑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, debris floating & submerged,

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? 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). 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 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: 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). 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). 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.

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.

clams
turtle shells (eggs)
wildlife burrow
Beaver gnaws
bird droppings
feather
crawfish burrows
some floating algae

Tracks
Beaver
Raccoon

Distance	Depth (meters)		
0 meters	UUDR	0.9	#34-37
30 meters		0.74	
60 meters		0.8	
90 meters		0.92	
120 meters		0.9	
150 meters	UUDR	0.56	#30-33
180 meters		0.78	
210 meters		0.96	
240 meters		1.16	(1.2)
270 meters		0.7	
300 meters	UUDR	0.72	#38-41
Average		0.83	

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
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:

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: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:

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:

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) Clam shells, ~~hatched~~ turtle eggs shells, crawfish Burrows

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 Click here to enter text.

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

Beaver Raccoon ☑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: ~~Plastic bottles~~

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: ~~WH33~~ WH34 lt

Data Collectors & Contact Information: Click here to enter text. SR, JG, LT	
Date & Time: 7 Aug 16 1410 CST 1510 CST	County Name: Click here to enter text.
Stream Name:	
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	R 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): private property behind locked gate

6. Dominant Primary Substrate

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

↓ Steep banks thick vegitation on bank ~~(right)~~ (left)

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).

See previous A.5 - private property, thick vegitation on left bank

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

no public 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:

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).
See previous B.2

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).
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). 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.

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: ~~WH33~~ WH34

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.

otter trx
Bird poop
crawfish burrows
turtles
Clamshells
hog wallow
Hog tracks

Distance	Depth (meters)	
0 meters	ULDR 0.72	#9-12
30 meters	0.64	
60 meters	0.90	
90 meters	0.44	
120 meters	0.52	
150 meters	ULDR 0.42	#1-4
180 meters	0.8	
210 meters	0.7	
240 meters	0.6	
270 meters	0.6	
300 meters	ULDR 0.66	#5-8
Average	0.64	

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	10.5m
Width at narrowest point of the stream within 300 meter reach	8m
Width at the widest point of the stream within 300 meter reach	13m

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

moss (some)

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):

debris in water

on bank

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:

enclosed gate

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:

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) crawfish burrows turtles otter 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).

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 tree debris
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 Click here to enter text. cows in pasture next to pasture creek is in

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

☑Tracks ☑Fecal droppings ☐Bird nests

otter, hog birdpoop

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~~

@ 69

Field Data Sheets RUAA Survey

(complete for each site)

Site: ~~WH39~~ WH35

Data Collectors & Contact Information: Click here to enter text. lt JG	
Date & Time: 22July2016 0530CST	County Name: Click here to enter text.
Stream Name:	
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): banks have thick, overgrown vegitation @ access point, steep, slick banks, Off FM Road w/vehicles traveling fast

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).

See previous A. 5

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

public access @ FM 69

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).

See Previous A.S

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).

See Previous A.S

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). Public access @ FM 69 - overgrown vegitation on bank ↓ Steep, Slippery 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.

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)

PICTURE 1&2: public access

PICTURE 3: manmade modification

Stream Name:

Site: WH35

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.

frog
raccoon tracks
canine tracks
feline tracks
beaver tracks
dead crawfish
Rug clam shells
logjams / low hanging trees

Distance	Depth (meters)
0 meters ULDR	0.74 #8-11
30 meters	0.72
60 meters	0.46
90 meters	0.70
120 meters	0.68
150 meters ULDR	0.32
180 meters	0.60
210 meters	0.62
240 meters	0.46
270 meters ULDR	0.32 ~~#9-12~~ #12-15
300 meters	0.34
Average	~~0.55~~ 0.54

bird poop on bank
swallow nest
#4-7
bottles
#16-17 - 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	8m
Width at narrowest point of the stream within 300 meter reach	1.4m
Width at the widest point of the stream within 300 meter reach	9m

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: sacrete dam @ 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): low hanging trees

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:

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:

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, logjams

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

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: ~~Plastic bottles~~

plastic bottles
Rug
trash (grocery) sack

Dale

Field Data Sheets RUAA Survey

(complete for each site)

Site: ~~WH22~~ WH36

Data Collectors & Contact Information: Click here to enter text. S. Robinson J. Garcia	
Date & Time: 21 Jul 16 0586	County Name: Click here to enter text.
Stream Name:	
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	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): PP - ≈1/2 mile from closed locked gate, steep banks down to site. dense bank 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).

PP, Steep banks, muddy water, mud bottom, Log jams.

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? 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). NA

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-

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.

Clamshells
crawfish burrows & dead one
wildlife trail #6
critter holes in banks #5
Bird droppings
frogs
Tracks
Armadillo
Raccoon
Hog
Squirel

Distance	Depth (meters)		
0 meters	ULDR	0.72	#11 - 14
30 meters		0.64	
60 meters		0.36	
90 meters		0.82	
120 meters		0.42	
150 meters	ULDR	71.5	#7 - 10
180 meters		0.52	
210 meters		0.52	
240 meters		0.86	
270 meters		0.14	
300 meters	ULDR	0.2	# 1 - 4
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	3.5
Width at narrowest point of the stream within 300 meter reach	~~3.5~~ 2.0
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

Log jams @ 30
@ 160
submerged branches & debris
Sinking mud

Tirell

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: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:

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. Hunting blind in ~~near~~ adjacent pasture
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) NA

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

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

CommentsClick here to enter text.

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

☑Tracks ☐Fecal droppings ☐Bird nests

See pg 5

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~~

two tires

@CR 3519

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 37

Data Collectors & Contact Information: Click here to enter text. S. Robinson J. Garcia	
Date & Time: 21 Jul 16 0840	County Name: Click here to enter text.
Stream Name:	
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	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): Access @ Bridge, no path, concrete blocks to climb down private property past bridge w/ fence ~~[illegible]~~ alongside but not up to 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).

Shallow in places with deeper spots but muddy w/ trash, thick brush on banks, steep banks

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

CR ~~3274~~ 3504

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). Same as pre.

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 pre.

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 pre.

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.

Tracks
Raccoon
Hog
water moccasin
frogs
bird in channel
crawfish burrows
oil jam
Bird droppings

Distance		Depth (meters)	
0 meters	ULDR	0.34	vertical banks #28-31
30 meters		0.82	
60 meters		0.32	
90 meters		0.5	
120 meters		2.0	
150 meters	ULDR	0.86	#18-21
180 meters		1.02	
210 meters		0.94	
240 meters		0.64	
270 meters		0.94	
300 meters	ULDR	0.8	#22-25
Average		0.83	

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	4 m
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	16 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~~

Photo #15-17 Dog
foam

garbage under bridge
glass bottles
rebar & concrete
old vacuum
Construction netting
Aluminum
Chunks of asphalt
tires (lots)
#26 & 27

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: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:

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:

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
Dogs ← 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 Hog) ☑Fecal droppings (Bird 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: Plastic bottles, glass, aleminum

See pg. 5

Bailey

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH38

Data Collectors & Contact Information: Click here to enter text. lt, JG, SR	
Date & Time: 8 August 2016 10:05CST 1528CST	County Name: Click here to enter text.
Stream Name:	
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): private property, steep banks w/ thick vegitation

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).

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

No public access, on 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? Click here to enter text. Lake Sulphur Springs

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).

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). Private property

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: WH 38

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 0.12	#9-12
30 meters	0.38	
60 meters	0.32	
90 meters	0.50	
120 meters	0.36	
150 meters	ULDR 0.06	#5-8
180 meters	0.60	
210 meters	0.38	
240 meters	0.34	
270 meters	0.16	
300 meters	ULDR 0.52	#1-4
Average	0.34	

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 m
Width at narrowest point of the stream within 300 meter reach	1.4 m
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

glass bottle trash can in channel

foam

scum @ bend @ 210m

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: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:

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:

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

CommentsClick here to enter text.

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

☐Tracks ☐Fecal droppings ☐Bird nests NA

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 bottle

Bailey

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH38

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor, J. Garcia	
Date & Time: 22 July 16 1543 CST	County Name: Click here to enter text.
Stream Name:	
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	

ARSONOV16

Corrected

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 - 2 miles back, 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. N/A

b. Check the number of individuals observed at the site:
☑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 previous A.5 - log jams in water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
no public 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. ? lake sulphur springs

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).

See previous A.5- log jams

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).

See previous C.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). private property

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: WH 38

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
Otter + Otter poop
Raccoon
Hog
Hoge/Watumoccasin (BFS)
Canine

Clamshells
crayfish
frogs
feather
bird poop

Distance	Depth (meters)		
0 meters	VLDR	0.12	#9-13
30 meters		0.34	
60 meters		0.22	
90 meters		0.52	
120 meters		0.44	
150 meters	VLDR	0.12	#5-8
180 meters		0.42	
210 meters		0.16	
240 meters		0.38	
270 meters		0.32	
300 meters	0.42	VLDR#1-4	massive log jam in US view
Average		0.31	

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	5m
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	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

broken glass, Aluminum tins

scum/foam, plastic bane + post

#14 = Log jam w BFS

algae on rocks

some 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): HUGE snake! (water moccasin)

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:

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:

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) algae on rocks snakes

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

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: foam @ bend @ log jam

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 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 (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: ~~Plastic bottles~~ soda can, plastic bottle, bag

@19

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH39

Data Collectors & Contact Information: Click here to enter text. S Robinson J. Garcia	
Date & Time: 21 July 16 1415 CST	County Name: Click here to enter text.
Stream Name:	
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): Steep bank, no parking on roadside, very fast-moving traffic & high volume

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).
Muddy water, floating plant debris, sinking mud, submerged logs, log jams

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Hwy 19

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. Lake Sulphur Springs.

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).

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).

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).

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.

Tracks
Raccoon
Beaver – Lots of slides leading to holes/burrows
Crawfish
Squirrel
Frogs
Crawfish burrows
water snake? @ 0m
Watermocassin
foam
Logiam DS from Bridge

Distance	Depth (meters)		
0 meters	ULDR	0.28	5-8
30 meters		0.4	
60 meters		0.6	
90 meters		0.46	
120 meters		0.82	
Bridge 150 meters	ULDR	0.7	#1-4
180 meters		0.58	
210 meters		0.8	
240 meters		0.74	
270 meters		0.82	
300 meters	ULDR	1.34	(1.3)
Average		~~0.69~~ 0.68	

Corrected to 0.68 [illegible]

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.

canine poop
feather
clamshells
bird droppings

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8 m
Width at narrowest point of the stream within 300 meter reach	4 m
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

Submerged [illegible]

Plastics
glass
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 ☐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: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. May 19

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:

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:

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) Watersnake

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

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: Plastic bottles, glass, aluminum

ROW

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH40

Data Collectors & Contact Information: Click here to enter text. lt, dG	
Date & Time: 22 July 2016 0210CST	County Name: Click here to enter text.
Stream Name: WH40	
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): Site in Right-of-way, weedy and overgrown, no real "road", steep banks

6. Dominant Primary Substrate

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

Site is in the pipeline Right-of-way

inserted into 5. Ep

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).

Steep banks, overgrown vegitation on banks, trees in channel

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

See previous A.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. ? lake Sulphur Springs

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). ~~N/A~~

See previous ~~B.5~~ B.2

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).

See previous B.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). See previous A.5

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: WH40

Date: Time:

beer can & plastic bottle on bank

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
hog wallows
frogs
hogtracks
critter hole
Steep banks

Distance	Depth (meters)
0 meters	ULDR 0.70
30 meters	1.06 (1.1)
60 meters	>1.5
90 meters	0.84
120 meters	>1.5
150 meters	ULDR 1.28 (1.3) #1-4
180 meters	0.84
210 meters	0.42
240 meters	>1.5 (7m width)
270 meters	0.56
300 meters	ULDR 0.66 #10-13
Average	0.99

Clam shell #5-8
trotline

Corrected from 0.94

spider webs on bank #9
snakeskin on bank #16
fish hook in tree #14-15

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	11m
Width at narrowest point of the stream within 300 meter reach	4m
Width at the widest point of the stream within 300 meter reach	16m

poop on tree
on bank
grocery sack on tree

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 60m	11m
4	
5 120m	9m
6	
7	
8	
9	7m.
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).

partial - not the length of whole channel

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

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: Pipeline corridor 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:

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:

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) hog wallows, tracks, spider webs, snake skin

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 Click here to enter text.

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

☑Tracks ☑Fecal droppings ☐Bird nests

hog/raccoon 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: ~~Plastic bottles~~

beer can
plastic water bottle

02285

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH41

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor, J. Garcia	
Date & Time: 20Jul16 1426	County Name: Click here to enter text.
Stream Name:	
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): Access off bridge, down footpath - very steep & lots of rip-rap, ankle breakers

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).

Difficult to walk to water (see pics) water shallow, mossy, brown water, lots of channel veg.

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

from 2285

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~~ Yes

Lake Sulpher Springs

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).

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 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).

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). Steep Slope

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	UDR	0.42
30 meters		0.74
60 meters		0.32
90 meters		0.26
120 meters		0.22
150 meters	UDR	0.16
180 meters		0.46
210 meters		0.04
240 meters		0.26
270 meters		0.2
300 meters	UDR	~~0.62~~
Average		~~0.34~~ 0.43

Clamshells
fish bones
Bird poop on rocks
crawfish burrows
frogs
rushes

Tracks
Raccoon
deer
canine

#11-15

#10 = Shells

#6-9

#1-4 (1.6)

#6 = Bird poop

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	3,
Width at the widest point of the stream within 300 meter reach	20 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~~

Fishing net (cast net)
Aluminum cans, glass
guard rail
Drop line

Algae on rocks
some 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: Located below L. Sulphur Springs Dam, when releasing water ↑ ↑ fish = ↑ fishermen. (TPW P' Trout?)

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: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:

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: Cast-net, drop line

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) Clam shells, aquatic veg, fish bones, frogs crawfish burrows

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

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, hog, deer - 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: Plastic bottles glass bottles, Large sheets of tin & aluminum cans, some sections of guard rail

2

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: 25 Aug 16	County Name: Click here to enter text.
Stream Name: ~~Click here to enter text.~~ White Oak	
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. DR 28 AUG 16

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

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

☐ 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): Boat only, far from ramp or public roads

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. Rural, Log and tree debris in water.

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

Click here to enter text. Hwy 67 bridge and boat US from the Sulphur river.

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.
Miles from bridge crossing at Hwy 67 and boat ramp

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.

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. Log and tree debris.

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. Located on WMA.

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	12
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 X Downstream X Left Bank X Right Bank X

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

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

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

GBH

LBH

# Measurements		Width (meters)		
0	1	ULDR	14 m	36 - 39
30	2		12 m	
60	3		13 m	
90	4		11 m	
120	5		15 m	
150	6	ULDR	12 m	32 - 35
180	7		13 m	
210	8		15 m	
240	9		9 m	
270	10		4 m	
300	11	ULDR	6 m	27 - 31

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: Located on WMA, Boat ramp is at the crossing of hwy 67 and the Sulphur river.

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. Tree limbs cut in some places to allow boats to pass.

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. Turtles, Fish, and frogs.

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

White Oak WMA

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

Bird poop

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.

Current due to Lake Wright Patman Releasing H_2O.

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: CWH02

Data Collectors & Contact Information: Click here to enter text.	
Date & Time: 25Aug16 1248	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. DC 28NOV16 DC 28NOV16 DC 28NOV16 (1st TRIP not 2nd)

☐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.

Access to site is by boat only, far from public roads or boat ramp.

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. Rural, ~~tree~~ and log debris in water.

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

30 Aug 16 JRG Click here to enter text. ~~Not at the site,~~ At hwy 67 bridge via the Sulphur River

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.
Miles from public boat ramp

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.

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). Log and tree debris, and dense Click here to enter text.
Channel vegetation in a few spots

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. Located on White Oak WMA, remote.

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)~~ feet		
0 meters	VLDR	25	21-24
30 meters		20	
60 meters		12	
90 meters		14	
120 meters		1.8	
150 meters	VLDR	27	17-20
180 meters		24	
210 meters		19	
240 meters		21	
270 meters		20	
300 meters	VLDR	2.5	13-16
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	7
Width at narrowest point of the stream within 300 meter reach	3.65
Width at the widest point of the stream within 300 meter reach	8.23

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 X Downstream X Left Bank X Right Bank X

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

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

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: _____ Site: _____

Date: _____ Time: _____

# Measurements	Width (meters)
1	7.62
2	3.65
3	4.26
4	6.09
5	5.49
6	8.23
7	7.32
8	5.79
9	6.4
10	6.1
11	7.62

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. Limbs and logs cut in order for boats to pass.

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. turtles, 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).
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.
Turtles, small fish

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

Bird poop

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)

~~Could~~ ~~Not get to it.~~

Site: WH03 took ULDR @ ~900m DS from

Data Collectors & Contact Information: Click here to enter text.	
Date & Time: 25 Aug 16	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.	

~~#s 1-4~~

Had to get out of boat and wak banks to site.

A. Stream Characteristics:

1. Check the following channel flow status that applies. AR 28 NOV 16

☐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. Boat only, Limb and los debris in channel, and miles 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. Rural, logs and limb 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. Located inside WMA, far from public 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. 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.
Access by boat only

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.

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. Log and tree limb debris in 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). Click here to enter text. Far from

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	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	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~~) feet	meters	
0	1	URDR	18	5m	1 - 4
30	2		17	5m	
60	3		18	5m	
90	4		19	6m	
120	5		16	5m	
150	6	URDR	~~15~~ 10	3m	9 - 12
180	7		17	5m	
210	8		16	5m	
240	9		15	4.5m	
270	10		16	5m	
300	11	URDR	16	5m	5 - 8

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. Hwy 64 bridge crossing with the sulphur river

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. Thick vegetation
Comments: Click here to enter text. Miles from public road

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. Some areas cleared so people can boat.

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
White Oak WMA

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

Bird poop

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)

(2)

Site: WH05

Data Collectors & Contact Information:	
Date & Time: 25Aug16 0845 CST	County Name:Click here to enter text.
Stream Name:	
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

JR 28NOV16

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): ~~Private property, past a locked gate, and long distance from the public road.~~ 30 Aug 16 JRG

WMA, no bank access, boat only from boat ramp at 259.

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).

Muddy with tree debris in channel, requires boat to access the site.

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

Only from boat ramp at 25-9

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) 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). Only accessible by boating DS from 259

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)..

See previous A. 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). See previous A. 5.

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	30
Width at narrowest point of the stream within 300 meter reach	18
Width at the widest point of the stream within 300 meter reach	35

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)		Depth	
300	1	ULPR	18 m		#25-28
270	2		27	1.42	
240	3		26		
210	4		30		
180	5		35		
150	6	URPR	34		#29-32
120	7		32		
90	8		30		
60	9		33		
30	10		25		
0	11	URPR	27		33-36

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: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:

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/Drop lines

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) Turtles, and fish.

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

W.O. WMA

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 Stray dogs.

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)

2

Site: CWH06

Data Collectors & Contact Information: SR JG	
Date & Time: 25Aug16 0751 CST	County Name: Click here to enter text.
Stream Name:	
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.

DR 28 NOV16

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

Corrected Eph

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): Private property, past a locked gate, and long distance from the public road.

WMA, no bank access, boat access only from bridge crossing on 259

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).

Tree debris in channel, and requires boat in order to access site.

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

Only at boat ramp off of 259

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) 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). Only access from 254

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)..

Only access from 254, lots of tree debris in 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). See previous B. 3.

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	17
Width at narrowest point of the stream within 300 meter reach	12
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: Site:

Date: Time:

# Measurements			Depth	Width (meters)	
300	1	ULDR	1.98	20m	#13-16
270	2			18 m	
240	3			17	
210	4			17	
180	5			20	
150	6		ULDR	19	#17-20
120	7			18	
90	8			17	
60	9			15	
30	10			14	
0	11		ULDR	12	21-24

Birdnest on channel

Water birds

pucks

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: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:

Thick ~~bank~~ Jrg 25 Aug 16 Bank vegetation

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) Excessive 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)

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

WO WMA

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

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 Stray dogs.

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

☐Tracks ☐Fecal droppings ☑Bird nests

Bird nest on channel

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)

Site: WH07

Data Collectors & Contact Information: S. Robinson, J. Garcia	
Date & Time: 25 Aug 16 0712 CST	County Name:Click here to enter text.
Stream Name:	
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): ~~Private property, past a locked gate, and long distance from the public road.~~ JRG 26Aug16
Only accessible by boating from 259.

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).

Difficult access, only accessible by boat at 259.

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

Public boat ramp at 259.

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) 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).
See previous A.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. 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).. Difficult access, and muddy 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). Located on WMA with no roads, banks are heavily vegetated, ~~and~~ Also slick and muddy

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	22
Width at narrowest point of the stream within 300 meter reach	19
Width at the widest point of the stream within 300 meter reach	32

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			Depth	Width (meters)	
300	1	CLDR	71.5	20m	1-4
270	2			22m	
240	3			21m	
210	4			19m	
180	5			20	
150	6	CLDR		20	5-8
120	7			25	
90	8			30m	
60	9			28	
30	10			32	
0	11	CLDR		20	#9-12

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: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: Dense Bank Vegetation

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

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) Crawfish burrow, ducks,

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

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

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 Stray dogs.

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)

#2

Site: ~~WH08~~ WH08

Data Collectors & Contact Information: Click here to enter text. GT, JG	
Date & Time: 11 Aug 16 1141 CST	County Name: Click here to enter text.
Stream Name:	
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. AC 28 Nov 16

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

Corrected Elev

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.
@259 LR 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): HWY 259

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).

N/A

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

Boat Ramp @ 259

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). N/A

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). ~~N/A~~ 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). 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.

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

Certain places / transects wadeable - several 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: WH08

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.

PIC #18 & 19: bird swallows under bridge

Distance	Depth (meters)	
0 meters	ULDR ~~1.06~~ 0.86	#20-23
30 meters	0.92	
60 meters	0.96	
90 meters	0.86	
120 meters	1.82	
150 meters	ULDR 1.30	#10-13
180 meters	1.40	
210 meters	1.18	
240 meters	1.40	
270 meters	~~1.18~~ 1.30	
300 meters	ULDR ~~1.06~~ 0.88	#6-9
Average	1.14	#14-17 (Read ULDR)

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	28
Width at the widest point of the stream within 300 meter reach	>33

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 ✓

~~3~~ 4 snakes seen while traveling to site

crawfish

trotlines (seemed to have been there awhile)

shirt in water @ 150m

fishing bobbers (old)

turtle

large tree debris in channel (limbs, trunks, sticks)

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): ~~low water~~ tree 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. @259 Bridge & within WOWMA

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:

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:

fishing bobbers - appeared to have been in water for a long time - trotlines also

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)

~~Crawfish~~, tree debris

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

Crawfish

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

WOWMA

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

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: t-shirt @ 180m

Could not Reach

Field Data Sheets RUAA Survey

#12

(complete for each site)

Site: WH09

Data Collectors & Contact Information:Click here to enter text.	lt, JG
Date & Time: 11 Aug 16 1104 CST	County Name:Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.:Click here to enter text.	
Description of Site:Click here to enter text.	unable to access site due to lower water levels and log jams / fallen trees impeding channel

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):

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).

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? 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).

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

excessive tree debris traveling to site - sunken tree trunks, limbs

PIC 1 → logjam w/ survey rod

PIC 2-5 → ULDR

depth @ log jam = 1.30m

water moccasin @ log jam

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: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:

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:

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).

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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

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:

Unable to reach

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH11

Data Collectors & Contact Information: Click here to enter text. lt, SR	
Date & Time: 11Aug16 ~~0840CST~~	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text. could not access site due * to large log jam in channel	

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):

6. Dominant Primary Substrate

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

* photos of log jam are recorded on WH12 FDS - will be added to trip 2 folder

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).

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? 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).

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	

- had to get out and push boat, move large logs ~~to Reach site WH11~~ On way to site 11
- unable to Reach WH11 due to second large log jam before site

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: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:

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:

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).

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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

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:

unable to Reach

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH12 #2

Data Collectors & Contact Information: Click here to enter text. lt, SR	
Date & Time: 11Aug16 0852 CST	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text. could not access site due to larg log jam in channel	

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):

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).

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? 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).

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	

depth @ log jam ~1.2 m

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 _____

- Unable to Reach WH12 due to large log jam ~~@ 33~~ before site

~~PICT: 1-3 log jam~~

PIC #1-3: general white oak

#4-7: log jam & boat

#8-11: ULDR @ log jam

PIC #12: thick bank vegitation @ log jam

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: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:

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:

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).

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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

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:

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH13

Data Collectors & Contact Information: Click here to enter text. Lt, Sk	
Date & Time: 11 Aug 16 0924CST	County Name: Click here to enter text.
Stream Name:	
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): only access to site is from WMA road - banks are covered w/ thick vegetation

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).

See Previous

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

no Road access- access only by boat from WMA Road OR through thick vegitated 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? 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) 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). See previous A.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
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).

See previous A.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). See previous A.5.

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	14
Width at narrowest point of the stream within 300 meter reach	11.5
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)			
		25		depth	
0	1	ULDR	See	>1.5	#15-18
30	2	19	↓	>1.5	
60	3	16	PREVIOUS	>1.5	
90	4	17	↓	>1.5	
120	5	15.5	Survey	>1.5	
150	6	ULDR	14.5	>1.5	#19-22
180	7		11.5	>1.5	
210	8		17	>1.5	
240	9		25	>1.5	
270	10		24	>1.5	
300	11	ULDR	13	>1.5	#23-26

PICA #13: snake

#14: CRITTER BURROW) general - not in RUAA Reach

Scum, foam, moss, debris

fish jumping

trot lines (seemed to have been there awhile)

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: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:

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. Trot lines
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) Snake outside of 300m reach

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

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 JSB 11 Aug 16

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

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:

@WMA Road

2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH14

Data Collectors & Contact Information: Click here to enter text. lt, SR	
Date & Time: 11Aug16 0652CST	County Name: Click here to enter text.
Stream Name:	
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): public boat ramp @ WMA 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).
thick vegitations

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

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:

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). 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). 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.

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	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	25 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:

@bridge

# Measurements			Width (meters)		depth	
300	1	17m	ULDR	~~0.70~~	0.70	#1-4
270	2		24	~~1.12~~	1.12	
240	3		18	see ↑	0.78	
210	4		16	trip	0.63	
180	5		16	one	1.10	
150	6	16	ULDR		1.5	#5-8
120	7		20	↓	1.28	
90	8		17.5		1.00	
60	9		16.5		1.20	
30	10		22		0.67	
0	11	25.5	ULDR		0.72	#9-12

Shotgun shell @ parking lot (300m), gun case in stream piled w/ log/tree debris

lots of sunken logs, tree debris

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).

Paved road lead to parking lot

☐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

WOWMA

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:

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: Shotgun case

Shotgun shell

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) trees in water

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

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:

old gun case

Shotgun shell

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH 15

Data Collectors & Contact Information: Click here to enter text. lt, SR	
Date & Time: 11 August 16 ~~0652CST~~ lt	County Name: Click here to enter text.
Stream Name: 0710CST	
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): access only by boat @ WMA road - slippery banks w/thick vegitation

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).

non-wadeable - see previous

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

public access @ WMA road - only access site by boat

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.

public boat ramp

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). 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: 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). 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). 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.

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	14
Width at narrowest point of the stream within 300 meter reach	11
Width at the widest point of the stream within 300 meter reach	19

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)		Depth	
~~300~~ 2 ~~3000~~	1	300	ULDR	see	0.69	#13-16
~~30~~	2	270	13	previous	0.73	
~~60~~	3	240	18	trip	0.77	
~~90~~	4	210	16	one	0.84	
~~120~~	5	180	15		0.79	
~~150~~	6	150	ULDR	14	0.78	#17-20
~~180~~	7	120		12.5	0.43	
~~210~~	8	90		14.5	0.69	
~~240~~	9	60		19m	0.83	
~~270~~	10	30		15m	0.70	
~~300~~	11	0	ULDR	15m	1.13	#21-24
				Average:	0.76	

PIC # 25: debris from flood in tree

log jam @ 270- got out and lifted boat over

nest in tree above channel

foam/scum moss starting @ 60- 60m - ~~continues to 0m~~

water snake and water moccasin ~~in RUAA S~~ within 300m stretch

lots of sunken logs, tree debris

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): on banks

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. thick vegitation on 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:Click here to enter text.
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

CommentsClick here to enter text.

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

☐Tracks ☐Fecal droppings ☑Bird nests in tree above channel

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:

KM Aunt (#2)

*Get Clinometer Measurements @ Banks.

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH16

Data Collectors & Contact Information: Click here to enter text. S. Robinson J. Garcia, L Taylor	
Date & Time: 10 Aug/16 1:36CST	County Name: Click here to enter text.
Stream Name: 02:10 CST	
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):

Private Property past 5 gates, steep slick banks, and thick vegetation

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).

See previous A.5

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

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.
☐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).
See previous A.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 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).
See previous A.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). See previous A.5

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	ULDR	0.68		#13-16
30 meters		0.92		
60 meters		1.02	1.0	
90 meters		~~1.28~~	1.3	
120 meters		~~1.32~~	1.3	
150 meters	ULDR	~~1.38~~	1.4	#17-20
180 meters		1.24	1.2	
210 meters		1.16	1.2	
240 meters		1.26	1.3	
270 meters		1.24	1.2	
300 meters	ULDR	1.9	2.0	#21-24
Average		~~1.18~~	1.23	

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	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	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 ✓

deer feeder @ 30m - Same as first survey

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
☑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
☐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:

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: Deer blind and deer feeder

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) minnows, 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).

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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 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:

* Get Clinometer measurements @ banks

KM

(#2)

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH17

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J Garcia, L Taylor	
Date & Time: 10Aug16 1238CST	County Name: Click here to enter text.
Stream Name:	
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	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): Private property about 2 miles behind property line - 3 gates - steep, slick banks, thick vegitation 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).

see previous

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

private

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).

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: 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). 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). 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.

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	12
Width at narrowest point of the stream within 300 meter reach	9
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:

slope 5°

# Measurements		Width (meters)		depth	
300	1	ULDR	16m	0.92	#1-4
270	2		16m	0.78	
240	3		14m	0.60	
210	4		9m	0.78	
180	5		12m	0.54	
150	6	ULDR	13m	0.42	#5-8
120	7		12m	0.48	
90	8		11m	0.88	
60	9		12.	0.80	
30	10		12m	0.74	
0	11	ULDR	10m	0.86	#9-12

Average: 0.71

Snake skin 11

deerblind - same place as during first survey

cowbone - same place as during first survey

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: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:

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: deer blind (tree), shotgun casings

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).

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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

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:

#2

~~# Get Clinometer Measurements on banks~~

Field Data Sheets RUAA Survey

(complete for each site)

KM Lease

Site: WH18

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J. Garcia L. Taylor	
Date & Time: 10 Aug 16	County Name: Click here to enter text.
Stream Name:	
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): Locked gate, long dist from pub road, 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).

Steep, slick slopes, muddy, sucking mud bottom, submerged log ~~jams~~ and debris

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

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? 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). 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: 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). 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). See previous-private property

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.

two dogs encountered at public road and property gate. They followed us down to creek & throughout the RUAA survey. Photos taken.

Distance		Depth (meters)
0 meters	ULDR	0.86
30 meters		0.94
60 meters		0.34
90 meters		0.64
120 meters		1.04
150 meters	ULDS	0.54
180 meters		0.88
210 meters		0.52
240 meters		0.42
270 meters		1.22
300 meters	ULDR	0.26
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	9
Width at narrowest point of the stream within 300 meter reach	6
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: _____

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: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:

purple paint on gate

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: pavillion on bank @ 300m - looks unused, old, rotted

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).

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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

* two dogs o road that followed us.

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:

Field Data Sheets RUAA Survey

(complete for each site)

Site: LW118

Data Collectors & Contact Information: Click here to enter text. S. Robinson J Garcia, L Taylor	
Date & Time: 20 July 16 0645 CST	County Name: Click here to enter text.
Stream Name:	
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): private property, behind closed gate, ≈ 1 mile to creek thru pasture & 1 electric fence gate, S

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: 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).
Steep slopes, slick & muddy, sucking mud bottom, muddy water, submerged logs & debris, snakes

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

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 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, closed gate 1 mile from public 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.

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.

Crawfish burrows
Clamshells #6
GBH
Bird poop Photo #5
Dead crawfish
Bird feather
turtle
snake (Nerodia)
Otter Burrow (or Beaver)
Tracks
Raccoon
canine
hog

Distance		Depth (meters)	
0 meters	ULDR	0.76	#11 - 14
30 meters		0.4	
60 meters		0.76	
90 meters		0.44	
120 meters		0.8	
150 meters	ULDR	0.6	#7 - 10
180 meters		0.54	
210 meters		0.78	
240 meters		0.44	
270 meters		1.18 1.2	
300 meters	ULDR	0.92	#1 - 4
Average		0.69	

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	9m
Width at narrowest point of the stream within 300 meter reach	6 m
Width at the widest point of the stream within 300 meter reach	14 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

Alum can
Tire

Submerged log debris
Sinking sucking mud
mud stinks anaerobic, decomp. plant matter.
Steep banks

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: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:

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: pavillion on banks @ 300 m, earth cut thru banks, Rot

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, submerged logs & other veg debris,

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) Clam shells, crayfish burrows & skeletons, turtles, otter/beaver tracks & den

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:

marked GPS

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 Click here to enter text.

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

☑Tracks ☑Fecal droppings ☐Bird nests Bird droppings

Hog, raccoon, bird, 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: ~~Plastic bottles~~

Aluminum cans, tire, seat cushion

KM (#2)

Field Data Sheets RUAA Survey

(complete for each site)

@ 1402
Split=30m US from Bridge

Site: WH19

Data Collectors & Contact Information: Click here to enter text. S Robinson J. Garcia	
Date & Time: 10 Aug 16	County Name: Click here to enter text.
Stream Name:	
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):

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).

muddy water, logjams, and debris in water.

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

Hwy 1402

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).
Steep banks, slick and muddy

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	ULDR	0.88	#13-16
30 meters		1.18 1.2	
60 meters		>1.5	
90 meters		0.58	
120 meters		0.96	
150 meters	ULDR	1.1	#1-4
180 meters	12m	>1.5	
210 meters		0.48	
240 meters		1.38 1.4	
270 meters	ULDR	0.54	9-12
300 meters	ULDR	0.31	5-8
Average		0.96	

Scum, Debris, Duckweed

~~snake~~

Watermoccasin 1

#21-24

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	11
Width at narrowest point of the stream within 300 meter reach	5
Width at the widest point of the stream within 300 meter reach	15m

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: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:

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: Trot lines, road down to water from 1402

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~~ water moccassinen JRG 15 Aug 16

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

JRG 10 Aug 16

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

CommentsClick here to enter text.

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

☑Tracks ☐Fecal droppings ☐Bird nests

Hog, deer, armadillo

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, steel drum, glass bottles, plastic bottles

Field Data Sheets RUAA Survey

(complete for each site)

@ 1402

Site: WH19

Data Collectors & Contact Information: Click here to enter text. S Robinson L Taylor	
Date & Time: 19 July 16 1148 CST	County Name: Click here to enter text.
Stream Name:	
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): Dirt road down to water from Highway

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).

Muddy water, debris & logjams,

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

HWY 1402

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). Steep banks, muddy

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). See previous description

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). NA

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	12
Width at narrowest point of the stream within 300 meter reach	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:

any lower and will prob. be all wadeable

1-4

	# Measurements			Width (meters)	Depth	
@Logjam	300	1	ULDR	12	1.35	1.4
	270	2		11	1.3	
	240	3		10	0.6	#5 = flood debris in canopy
	210	4		14	0.95	
	180	5		14	1.98	2.0
@Bridge	150	6	ULDR	15	1.60	#6-9 *
	120	7		15	0.92	
	90	8		5	0.4	
	60	9		6	0.9	
	30	10		9	0.5	#10 boat-old
	0	11	ULDR	10	1.43	1.4 #11-14

avg 1.09

#15-16 = crawfish burrows

#17 = tire

Crawfish burrows
Armadillo tracks
Snake
Small fish
Deer tracks

trotline on bank
Hog wallows

tire
Glass

Sandy

* Transects 180, 150 90 have non-wadeable depths. The rest are wadeable

Boat was used

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: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. Dirt drive 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:

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: Trotlines a road down to water from 1402

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) NA

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

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

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, deer, armadillo

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~~

glass bottles, tire, remanant of steel drum, old boat, sturofoam

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH20

Data Collectors & Contact Information: Click here to enter text. RL, JG	
Date & Time: 10August2016 7:32 CST	County Name: Click here to enter text.
Stream Name:	
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.

Eroded

☐ 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, slippery banks, thick vegitation

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).

submerged log jams, steep, slupper ~~slope~~ banks, thick vegitation on bank

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

access via dirt ~~Road~~ boat Ramp @ Fm 1902

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). 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: 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).
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). 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.

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 trash (cans)
welding torch
feather
hog wallow
trot line
tire in channel

Distance		Depth (meters)	
0 meters	ULDR	0.42	#38-41
30 meters	? ULDR	0.20	#43-46
60 meters		0.26	
90 meters		0.24	
120 meters		~~1.10~~ 0.20	
150 meters	ULDR²	~~0.98~~ 0.20	#30-33 (#34-37)? Real↑
180 meters		~~0.82~~ 0.24	
210 meters		~~0.46~~ 0.16	
240 meters		~~0.60~~ 0.12	
270 meters		~~0.30~~ 0.26	
300 meters	ULDR	0.30	#26-29
Average		0.24	

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	2
Width at the widest point of the stream within 300 meter reach	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 _____

foam in water @ 30m – pic #42

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name:

Site: WH20

Date:

Time:

# Measurements		Width (meters)
300	1	ULDR
270	2	
240	3	
210	4	
180	5	
150	6	
120	7	
90	8	
60	9	
30	10	
0	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: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:

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:

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) hog wallows

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 Click here to enter text.

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

☑Tracks ☐Fecal droppings ☐Bird nests

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: welding torch, bucket, aluminum cans

10August2016 lt @1905

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH21

Data Collectors & Contact Information: Click here to enter text. lt, JG	
Date & Time: ~~9August~~ 7:13CST	County Name: Click here to enter text.
Stream Name:	
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 the 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): Accessible only from DS dirt boat ramp, banks are steep and slick

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).
See previous

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Dirt boat ramp DS from site / 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. 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). N/A

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).

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). only at dirt boat ramp DS from site, requires boat but lots of debris in water.

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	19
Width at narrowest point of the stream within 300 meter reach	10
Width at the widest point of the stream within 300 meter reach	23

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:

Entered on 5 Apr

@bridge

# Measurements		Width (meters)			
300	1	ULDR	21m	0.46	#14-17 1.4
270	2		23m	1.44	
240	3		22m	>1.5	
210	4		22m	>1.5	
180	5		19m	>1.5	
150	6	ULDR	23m	1.22	#18-21 1.2
120	7		17m	1.02	
90	8		10m	1.14	
60	9		16m	0.50	
30	10		26m	0.76	
0	11	ULDR	12m	0.42	#22-25

@truck

average: 1.0

fish

scum

foam on water (bubbles)

debris from trees in water

low hanging trees over water

beer cans

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: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. Dirt boat ramp @ 1402 just before bridge

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:

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: Cane pole

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) excessive 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)

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 Click here to enter text.

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

☐Tracks ☐Fecal droppings ☑Bird nests

Bird nest 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: Plastic bottles, aluminum cans, metal culvert

(#2)

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 22

Data Collectors & Contact Information: Click here to enter text. L. Taylor, J. Garcia	
Date & Time: 10 Aug 2016 622 CST	County Name: Click here to enter text.
Stream Name:	
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	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): Steep Slope for boat deployment, lots of submerged 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: 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).
Muddy water, steep slick banks, lots of submerged logs & debris

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
Dirt Boat ramp @ 1902

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). 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 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). 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). @1902 by bridge only

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	18
Width at narrowest point of the stream within 300 meter reach	9
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)	Depth	
300	1	ULDR	21	>1.5	# 2-5
270	2		20	1.44	1.4
240	3		18	>1.5	
210	4		17	1.06	1.1
180	5		17	>1.5	
150	6	ULDR	21	1.5	# 6-9
120	7		18	~~1.76~~ >1.5	
~~5~~90	8		21	>1.5	
60	9		19	1.4	
30	10		28	0.8	
0	11	ULDR	22	1.28	#10-13 1.3

small garbage - bucket in channel
low hanging trees over water

Picture #1 - trot line
from trip 1 sik20@300m US

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: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) Down to water from 1902
☐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:

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:

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).

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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

CommentsClick here to enter text.

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

☐Tracks ☐Fecal droppings ☐Bird nests NA

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: bucket

* Could NOT Access * See LDR photos @WH24

Logiam, Depths >1.5
Excessive Debris, Steep banks

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 23

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor, J. Garcia	
Date & Time: 9 Aug 16 1230 CST	County Name: Click here to enter text.
Stream Name:	
Segment No. or nearest downstream Segment No.: Click here to enter text.	
Description of Site: Click here to enter text.	

Non wadable

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):

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).

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? 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).

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 ☐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: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:

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:

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).

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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

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:

WH23 NO GO

#2

Field Data Sheets RUAA Survey

(complete for each site)

@271

Site: WH24

Data Collectors & Contact Information: Click here to enter text. L. Taylor, J. Garcia	
Date & Time: 9Aug16 1233 CST	County Name: Click here to enter text.
Stream Name:	
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): See Trip 1

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).

Trip 1

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

@ Hwy 271 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. 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). Trip 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 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). Trip 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). Trip 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.

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	23
Width at narrowest point of the stream within 300 meter reach	17
Width at the widest point of the stream within 300 meter reach	39

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: '>' means 'greater-than'

Date:

Time:

# Measurements			Width (meters)		
0	1	ULDR	24	71.5	# 5-8
30	2		31	1.34	1.3
60	3		34	71.5	
90	4		39	71.5	
120	5		19	71.46	1.5
150	6	ULDR	20	71.5	# 1-4
180	7		22	1.49	1.5
210	8		28	71.5	
240	9		26	71.5	
270	10		24	71.5	
300	11	ULDR	21	71.5	# 9-12

Excessive duckweed between 0m @ 150m then again @ 300m

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: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:

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:

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) Excessive floating debris

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

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 NA

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:

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH25

Data Collectors & Contact Information: Click here to enter text. L. Taylor, J. Garcia, S. Robinson	
Date & Time: 9 Aug 2016 1253 CST	County Name: Click here to enter text.
Stream Name:	
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): Trip!

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).

Tripl

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

Tripl

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). Trip 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 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). Trip 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). Trip 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.

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	20
Width at narrowest point of the stream within 300 meter reach	12
Width at the widest point of the stream within 300 meter reach	25

Entered

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

Could not access 150m-300m b/c logjam. Non-wadeable steep, slick, slopes

Field Data Sheets RUAA Survey

(complete for each site)

Stream Name: Site:

Date: Time:

# Measurements			Width (meters)	Depth	
0	1	ULDR	13	>1.5	#17-21
30	2		24	>1.5	
60	3		25	1.0	
90	4		21	>1.5	
120	5		22	1.42	1.4
150	6	ULDR	17	0.98	#13-16 1.0
180	7				
210	8				
240	9				
270	10				
300	11				

could not access

- foam & scum between 60m & 30m
- duckweed
- tree debris (logs) in channel

logjam in US view @ 150m

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): Submerged limbs & logs

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:

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:

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) NO

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

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:

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH26 @2100

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J. Garcia, L. Taylor	
Date & Time: 09 Aug 16 1010 CST	County Name: Click here to enter text.
Stream Name: 1058 CST	
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): Trip)

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).
Trip 1

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
@2100 bridge only

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). Trip 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 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). Trip 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). Trip 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.

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.

foam under bridge
Raccoon trx
otter Trx

Distance		Depth (meters)	
0 meters	ULDR	0.62	pic # 9-12
30 meters		1.2	
60 meters		0.34	
90 meters		0.48	
120 meters		0.58	
150 meters Bridge	ULDR	0.2	
180 meters		>1.5	
210 meters		0.68	
240 meters		1.02	1.0
270 meters		0.24	
300 meters	ULDR	0.92	
Average		0.71	

Downed tree, not there @ last survey

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 m
Width at narrowest point of the stream within 300 meter reach	5 m
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 _____

old smartphone
Garbage under bridge same as trip1

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: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:

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: Garbage dumped

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) Trip 1

8. Please list any evidence of sustained aquatic habitat such as clam shells, aquatic or marsh vegetation, turtle shells, etc. (Attach photos) - Trip 1

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

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

coon, otter

@ 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:

in addition to trip 1 list: - old cell phone (sim cut)
- jewelry box/nightstand

No Access

DS from 37

(A2)

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH27

Data Collectors & Contact Information: Click here to enter text. S. Robinson J. Garcia, L. Taylor	
Date & Time: 09 Aug 0905 CST	County Name: Click here to enter text.
Stream Name:	
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):

6. Dominant Primary Substrate

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

- Access by boat restricted by logjam, visible in the OM DS view @ WH28.
- Non-wadeable depts encountered leading to this point
- Steep slick banks & dense bank vegetation block travel downstream to site WH27.

Same conditions encountered as were during Trip 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).

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? 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).

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 ☐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: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:

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:

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).

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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

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:

(WH29 Jonno No Access) @HWY 37

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH28

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J. Garcia, L. Taylor	
Date & Time: 9 Aug 16 0905 CST	County Name: Click here to enter text.
Stream Name:	
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, Slick Slopes, deep mud, pvt. prop. fence on East side of Hwy.

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).

Shallow @ bridge but non wadeable in spots, deep mud, slick banks, dense bank vegetation

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

~~NO~~ @ HWY right-of-way only.

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) See previous

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 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). ~~only @ 37 bridge~~
NA

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). only @ 37 bridge

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.

foam/bubbles on water surface

· turtles

· empty motor oil container

Distance		Depth (meters)	
0 meters	ULDR	0.92	#1-4
30 meters		0.40	
60 meters		1.40	
90 meters		0.22	
120 meters		0.36	
150 meters	ULDR	1.30	#5-8
180 meters		0.90	
210 meters		1.00	
240 meters		0.80	
270 meters		0.66	
300 meters	ULDR	0.56	#9-12
Average		0.77	

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	1.5
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:

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: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: Limited public access

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: Same as previous trip

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) excessive log jams & Debris

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

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

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: Plastic Container

@900

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH30

Data Collectors & Contact Information: Click here to enter text. L. Taylor, J. Garcia	
Date & Time: 8 Aug 2016 0553 CST	County Name: Click here to enter text.
Stream Name: 0641 CST	
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): access @ FM 900

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).
Access limited to FM 900, Steep Banks, thick vegetation on banks, Debris in channel

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
access @ FM 900

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).
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 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). 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.

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.

Snake 1

feather fish trap

hog wallows

Hog from trip 1 gone.

Distance		Depth (meters)	
0 meters	ULDR	0.46	# 5-9
30 meters		1.30	
60 meters		1.02 (1.0)	
90 meters		1.40	
120 meters		0.44	# 1-4 (bridge)
150 meters	ULDR	1.26 (1.3)	# 10-13
180 meters		1.10	
210 meters		0.82	
240 meters		0.56	
270 meters	ULDR	0.50	# 18-21
300 meters	ULDR	0.48	#14-17
Average		0.85	

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	16m
Width at narrowest point of the stream within 300 meter reach	13m
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 _____

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 (Banks) ☐Low bridges ☐None
☐Utility pipe ☐Other (specify):

Debris & low hanging trees in channel

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:

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:

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).

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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

CommentsClick here to enter text.

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

☐Tracks ☐Fecal droppings ☐Bird nests bird feather

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:

yessam ffes

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 31

Data Collectors & Contact Information: Click here to enter text. S. Robinson, J Garcia, L Taylor	
Date & Time: 9 Aug 2016 0640 CST	County Name: Click here to enter text.
Stream Name:	
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	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):

6. Dominant Primary Substrate

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

NO Rec. Sec Trip | FDS

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).

See Trip 1

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? 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) 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). Tall, steep, slopes/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 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). 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). PP, no roads, dense bank 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.

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.

Watermoccassins:
5 seen ~90m { ~~IIII~~ II
2 hatchlings @ 120m

Watersnake: 1

Tracks
possum
hog
frogs
bird poop

Distance		Depth (meters)
0 meters	ULDR	0.30
30 meters		0.34
60 meters		0.32
90 meters		0.58
120 meters	ULDR	0.42
150 meters		
180 meters		
210 meters		
240 meters		
270 meters		
300 meters		
Average		0.39

*

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	3
Width at the widest point of the stream within 300 meter reach	11 ~~13~~ 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 _____

* 7 venomous snakes encountered in channel or on bank within 120m. Two were hatchlings, timing of hatch coincides with this date. Safety concerns for unprotected field personnel considered as completion of survey declined.

* Watermoccas in #8 observed in riparian area as we left site.

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: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:

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:

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 (venomous) excessive, Excessive debris.

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 (present)	☐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

CommentsClick here to enter text.

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

☑Tracks (possum, hog) ☑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 bucket

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: ~~WH33~~ WH32

Data Collectors & Contact Information: Click here to enter text. SR, HG, LT	
Date & Time: 7Aug2016 16:10 CST	County Name: Click here to enter text.
Stream Name: White Oak	
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 extremely !!!

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): Private Property / closed gate, 1 mile from public 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).
Muddy banks, steep banks, floating debris, log jams, and submerged logs

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

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 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). See erev

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). No road, 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.

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: ~~WH33~~ WH32

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 poop
clam shell
bird poop

Distance		Depth (meters)	
0 meters		0.41	
30 meters	ULDR	0.26	#17-20
60 meters		0.56	
90 meters		0.28	
120 meters		0.82	
150 meters	ULDR	0.56	#13-16
180 meters		0.78	
210 meters		0.84	
240 meters		1.04	
270 meters		0.76	
300 meters	ULDR	0.52	#17-20
Average		~~0.67~~ 0.64	

foam
scum
Duckweed

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	7
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

Snake 11

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: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:

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:

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) excessive debris in water and snakes

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

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

CommentsClick here to enter text.

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

☐Tracks ☑Fecal droppings ☐Bird nests

Raccoon and bird poop

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~~

#2

@ 69

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH35

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor J. Garcia	
Date & Time: 7Aug16 1130 cst - 1228	County Name: Click here to enter text.
Stream Name:	
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

Corrected Thru

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

See prev.

5. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): See prev.

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).

N/A

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

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:

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.
☐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).
See previous Trip

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).
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.

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)

Start 11:30 cst @ Hwy 69

Stream Name: Site: WH35

Date: Time: Water Moccasin MFS

snakeskin

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.

bobcat tracks
beaver tracks
beaver gnaw
frogs
crayfish
bird droppings & eggshell
clamshells
Otter tracks
feather
Cliffswallow nests @ bridge.

Distance	Depth (meters)		
0 meters	UDR	0.8	19-22
30 meters		0.76	
60 meters		0.6	
90 meters		0.5	
120 meters		0.9	
150 meters	UDDR	0.6	#15-18
180 meters		0.7	
210 meters		0.5	
240 meters		0.52	
270 meters		0.54	
300 meters	UDR	0.6	#23-26
Average		0.64	

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.

small fish

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0
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	8.2

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

recent bank garbage, soda can, fast food wrapper, (glass bottles in channel c.s.)

rebar

Scum & bubbles

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: See trip 1

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: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:

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: recent fast food garbage.

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) moccasin

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

small fish, crawfish, frogs, beaver & otter 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).

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 Click here to enter text.

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

☑Tracks ☑Fecal droppings ☑Bird nests

deer pigs Bird cuddbridge (swallows)

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, glass, food wrapper, aluminum, rebar

#2

NOR RVR RCBAM

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 33

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor	
Date & Time: 7 Aug 16 1830 CST	County Name: Click here to enter text.
Stream Name:	
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.)

LB Forest	Urban	Rip rap
Shrub dominated corridor	RB 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): Same as Trip 1

6. Dominant Primary Substrate

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

(stinks)

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).

Trip 1

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? 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). (Trip)

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). (Trip)

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). (Trip)

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	ULDR	0.70	#51-54
30 meters		0.50	
60 meters		0.30	
90 meters		0.80	mega logjam
120 meters		0.40	
150 meters	ULDR	0.50	#55-58
180 meters		0.40	
210 meters		0.40	
240 meters		0.40	
270 meters	ULDR	0.70	#59-62
300 meters			could not access
Average		0.51	Banks steep, clearing on banks, no road. log jam

clam shells
cattle tracks/poop
snake 1
hogs @ 60m/30m

mud stinks

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	9.0
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	10.0

See trip 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: _____ 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: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

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: Thick veg on Banks
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. NONE
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).

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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 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:

Dale

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH 36

Data Collectors & Contact Information: Click here to enter text. lt, JG, SK	
Date & Time: 8 August 2016 0746 CST	County Name: Click here to enter text.
Stream Name:	
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	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): Private property behind locked gate, steep banks w/ thick vegitation

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. N/A

b. Check the number of individuals observed at the site:
☑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 previous A.5

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

no public 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.

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). 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: 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).

See Previous A.S

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). no public access-private property

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: WH36

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.

Soda can in channel
tire on bank x2
frogs
beer bottle

Distance	Depth (meters)	
0 meters	ULDR 0.56	#11-14
30 meters	0.54	
60 meters	0.32	
90 meters	0.62	
120 meters	0.76	
150 meters	ULDR 1.20	#7-10
180 meters	0.76	
210 meters	1.40	
240 meters	0.42	
270 meters	0.80	
300 meters	ULDR 0.18	#1-4
Average	0.69	

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	3.5m
Width at narrowest point of the stream within 300 meter reach	1.6m
Width at the widest point of the stream within 300 meter reach	11m

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

small garbage just after 270m (cans, trash) ~~up~~ downstream

Jumping frog that scared Sarah

~~PIC#1~~
PIC#5-nutria hole
PIC#6-tracks (bobcat)

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): unbank

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:

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:

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

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

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

Bobcat

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, soda cans, beer bottles

@ CR 3519

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH37

Data Collectors & Contact Information: Click here to enter text. LA, JG, JR	
Date & Time: 8 August 2014 0834 CST	County Name: Click here to enter text.
Stream Name:	
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	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): bridge w/ steep banks.

6. Dominant Primary Substrate

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

access only available by bridge - no path, private property w/ fence past 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: 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).

See previous

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

CR 3504

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). 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:

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). 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). 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.

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: WH37

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 @ bridge (150)
Snake skin
ladies clothes
in trash bag
under bridge
tires in channel
carpet in channel

Distance	Depth (meters)		
0 meters	ULDR	0.70	#24-27
30 meters		~~0.40~~ 0.50	
60 meters		0.78	
90 meters		0.40	
120 meters		>1.5	
150 meters	ULDR	0.22	#15-18
180 meters		0.76	
210 meters		0.90	
240 meters	ULDR	0.80	#20-23
270 meters		NA	
300 meters		NA	
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	4.5m
Width at narrowest point of the stream within 300 meter reach	2.3m
Width at the widest point of the stream within 300 meter reach	16.0

Entered Efe

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
foam
odor from water
dead animal smell

PICT # 19 - BIG water
moccasin

Overhup depth water
w/ snakes @ face/
height
poisonous

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): Water moccasin

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:

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:

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) large moccasin

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

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: See page 5

#2

@19

Field Data Sheets RUAA Survey

(complete for each site)

Site: CW439 @HWY 19

Data Collectors & Contact Information: Click here to enter text. S. Robinson, L. Taylor, J. Garcia	
Date & Time: 07 Aug 16 1030 Am CST - 1120am CST	County Name: Click here to enter text.
Stream Name:	
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): See previous FDS

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).

See Prev. FDS

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

See prev. FDS

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). See prev FDS

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).

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.

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~~ 270 m 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.

beavers gnaw
Squirrel on tree in channel
raccoon tracks
small fish

livetrap # 5

turtles
frogs

Crawfish
otter trx & burrows

Watersnake
noccassin

Distance		Depth (meters)	
0 meters	ULDR	0.26	
30 meters		0.4	~~0.26~~
60 meters		0.62	~~0.4~~
90 meters		0.76	~~0.62~~
120 meters		0.7	~~0.76~~
150 meters	ULDR	0.62	~~0.7~~
180 meters		0.82	
210 meters		0.64	
240 meters		1.28	(1.3)
270 meters	ULDR	1.02	
300 meters		NA	
Average			0.71

~~Log jam prevented getting to 30m~~

photo 1-4

#6 - 9
Step slopes, >1.25 m
depth prevented 300 m

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	2.5 2.5
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

Sinking 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.*

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: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. Sucking mud, venemous snakes
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:Click here to enter text.
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) turtles, small fish, crayfish, otter tracks & burrows

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

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. Squirrel

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

☑Tracks ☐Fecal droppings ☐Bird nests

Otter, ~~sq~~

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, live trap

ROW

Field Data Sheets RUAA Survey

(complete for each site)

#2

Site: WH40

Data Collectors & Contact Information: Click here to enter text. LA, JG	
Date & Time: 8 August 2016, 1305, 13:58 CST	County Name: Click here to enter text.
Stream Name:	
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): Site in Right-of-way, weedy and overgrown no Real Road, steep banks

6. Dominant Primary Substrate

☐Cobble ☑Sand ☐Silt ☑Mud/Clay ☐Gravel ☐Bedrock ☒Rip rap not ☒Concrete not DR 30NOV16

Site is in pipeline Right-of-way

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).
Steep banks, overgrown vegitation on banks, trees in channel

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

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).

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: 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).

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).

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.

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: WH40

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 0.58
30 meters	0.64
60 meters	1.40
90 meters	0.74
120 meters	>1.5
150 meters	ULDR 0.74
180 meters	0.92
210 meters	0.50
240 meters	0.98
270 meters	0.70
300 meters	ULDR 0.72
Average	0.86

#5-8

~~#16~~ #1-4

#9-12

Spider webs on banks

feather

snakeskin

Raccoon tracks

hog wallows

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	11m
Width at narrowest point of the stream within 300 meter reach	4m
Width at the widest point of the stream within 300 meter reach	~~16.5m~~ 16.5m

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): low hanging trees

reach to middle of channel making it difficult to manuever through channel

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

Pipeline corridor

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:

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:

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) hog wallows, ~~trac~~ snake skin

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

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

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

~~no~~ hog, Raccoon 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:

@2285

#2

Field Data Sheets RUAA Survey

(complete for each site)

Site: WH 41

Data Collectors & Contact Information: Click here to enter text. LT, JG, SR	
Date & Time: 8 August 2016 1134CST	County Name: Click here to enter text.
Stream Name: 1156CST	
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	

SR 30 NOV 16

Corrected EP

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): VERY, extremely rocky banks 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).
Difficult to walk to the water, water is shallow and rocks in channel.

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, etc. for documentation).
from 2285

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 Sulphur Springs

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).
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 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).
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). Steep slope

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: WH41

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.

big fish – carpe

lots of rocks

Distance	Depth (meters)	
0 meters	ULDR 0.50	#9-12
30 meters	0.36	
60 meters	0.30	
90 meters	0.30	
120 meters	0.16	
150 meters	ULDR 0.36	#5-8
180 meters	0.46	
210 meters	0.26	
240 meters	0.28	
270 meters	0.20	
300 meters	ULDR 1.30	#1-4
Average	0.41	

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	0.60
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: _____ 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: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:

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: Cast net, drop line

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) Clam shells, aquatic vegetation, fish bones, frogs, Crawfish burro

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

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

Canine, hog, Raccoon → 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: Sheets of tin, glass bottles, aluminum cans, section of guard rails.