

Field Data Sheets – Basic RUA Survey

Data Collectors & Contact Information:	Randy Bow, Madeline Fangman
Date & Time:	5-21-10 9:44 County Name: Hopkins
Stream Name:	Elm Creek Site # 49
Segment No. or nearest downstream Segment No.:	49 @ CR 110 # 0512B-03 → 9/22/10
Description of Site:	49 → CR 110

At any point during the Basic RUA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the U.A.A.

33° 5' 01.4" N 324° 39.53" W
 95° 41' 45.89" W AS NAJ

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. *n/a cms not accessible*

4. Water Quality Data (Field Parameters)

Air Temp 26.5 °C Water Temp 28.5 °C

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

<input type="checkbox"/> Forest	<input checked="" type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input checked="" type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult *few 7/20/11*

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

Access is easy, but fenced on both sides, private property

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

* corrections in red from Randy Bow, Stephanie Linter 1/20/11

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

Yes No 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
- Wading-Adults
- Swimming
- Water skiing
- Diving
- Tubing
- Surfing
- Whitewater-kayaking, canoeing, rafting
- Other: _____
- frequent public swimming-created by publicly owned land / commercial operations

No primary contact activities that commonly occur were observed

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

c. Check ALL 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 (25ft) of water
- Individual far - 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).

Low depth, narrow stream, woody debris

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

Accessible from CR 1110, but fenced, private property on both sides

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

- 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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site. None 1-10 11-20 20-50 greater than 50

c. Check ALL 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 (25ft) of water Body far away - 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).

Low depth, narrow stream width

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
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: _____

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).

Low depth, narrow stream width, woody 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).

Physically Accessible but fenced on both sides private property (cattle panel) across south side of road

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

 _____ n/a _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

not not accessible

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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

Not accessible - private property

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.24 m
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

at road crossing

not accessible

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.75 m
Width at narrowest point of the stream within 300 meter reach	0.5 m
Width at the widest point of the stream within 300 meter reach	2 m

estimated from road crossing, usually

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing 0 30 M Photo's Upstream 95 Downstream 96 Left Bank 97 Right Bank 98
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

not accessible

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other:

8. 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: _____

9. 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: _____

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

Tracks Fecal droppings Bird nests

11. 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: Beer cans, water bottles + items

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

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

stream surrounded by pasture + forest area

EC #48
47

Field Data Sheets – Basic RUAA Survey

PIC #99-102
100-0100
KRW
100-0103

Data Collectors & Contact Information: <u>Randy Bow, Madeline Ferguson</u>	
Date & Time: <u>5-21-10 11:10AM</u>	County Name: <u>Hopkins County</u>
Stream Name: <u>Elm Creek</u>	
Segment No. or nearest downstream Segment No.: <u>48-47 0512B-03</u>	
Description of Site: CR 1171 - CR 1116 <u>7/20/11 47E CR 1171</u>	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

~~33° 3' 25.63 N
95° 41' 48.74 W~~
Incorrect GPS Reading
Coordinates did not clear
JEW 7/20/11

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. .0116 cms .412 cfs

4. Water Quality Data (Field Parameters)

Air Temp 21.8 °C Water Temp 23.1 °C

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

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

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

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

steep Access, fenced private property on both sides*

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

* Corrections in red from Randy Bow, Stephanie Painter 4/25/11

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

No primary contact activities that commonly occur were observed

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

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

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

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 ~~to~~ Bank access, low depth, woody debris

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

NO. Private Property
↳ public access, on both sides

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

- Yes
- No

C. Secondary Contact Water Recreation Evaluation:

- **Secondary contact recreation 1:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- **Secondary contact recreation 2:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water
- Body far away - 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).

Steep Banks, low depth, woody debris

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

n/a

Please describe how often the activities occur? 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).

low depth, steep banks, woody 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).

Lack of Stream Banks -> no public access, private property on both sides, accessible 10ft from bridge, small

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

n/a

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

but not accessible

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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 10° 30 M Photo's Upstream 99 Downstream 100 Left Bank 101 Right Bank 102
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

n/a

not accessible

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.35m
60 meters	0.35m
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	0.35

2m wide at bridge crossing

EC #48
47

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	2
Width at narrowest point of the stream within 300 meter reach	0.5m
Width at the widest point of the stream within 300 meter reach	3m

.35 Depth
visually estimated from bridge

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing 10° 30 M Photo's Upstream 99 Downstream 100 Left Bank 101 Right Bank 102
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

not accessible

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other:

8. 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: _____

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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: _____

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

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

Private property

EC #48
47

Field Data Sheet - Basic RUA Survey
Stream Flow (Discharge) Measurement

Stream: Elm Creek Date: 5-21-10
 Site: 48 Site _____
 Description: 48 @ 1171
 Time Begin: 1:18 pm Time End: 1:32 pm Meter Type: _____
 Observers: Randy Row, Madeline F. Stream Width*: 2 m Section Width (W): .2
 Observations: _____

Section Midpoint (m)	Section Depth (m) (cm) (D)	Observational Depth** (m)	Velocity (V)		Flow (Q) (m ³ /s) Q = (W)(D)(V)
			At Point (m/s)	Average F _{1/5} (m/s)	
0.2	0.2	0.12	0.021	.074	0.00084
0.22	0.22	0.132	0.022	.078	0.000968
0.6	0.32	0.192	0.022	.078	0.001408
0.8	0.34	0.204	0.022	.078	0.001496
1.0	0.35	0.21	0.022	.078	0.00154
1.2	0.35	0.21	0.022	.078	0.00154
1.4	0.30	0.18	0.022	.078	0.00132
0.16	0.24		0.022	.078	0.001056
0.18	0.22	0.132	0.022	.078	0.000968
0.20	0.12	0.072	0.022	.078	0.000528
					0.011664

cfs
 .02966
 .03418
 .04972
 .05283
 .05438
 .05438
 .04661
 .03729
 .03418
 .01864
 .411908

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	<i>Pandy Bow Madeline Langman</i>
Date & Time:	<i>5-12-10 2pm</i> County Name: <i>Hopkins</i>
Stream Name:	<i>Elm creek</i>
Segment No. or nearest downstream Segment No.:	<i>47 48 OS12B 03</i>
Description of Site:	<i>47 @ CE 1116 @ CE 1116 JEW 7/20/11</i>

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the U.A.A.

*33° 3' 25.73 N
95° 41' 33.16 W*

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. *.038 cms 1.36 cfs*

4. Water Quality Data (Field Parameters)

Air Temp *29.1* °C Water Temp *22.3* °C

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

- | | | |
|--|--|-----------------------------------|
| <input checked="" type="checkbox"/> Forest | <input type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): _____ |
| <input type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |

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

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

No Banks, very steep, private property on both sides SP, RB 01/25/2011

8. Dominant Primary Substrate

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

*Photos
#103 up
#104 snake
#105 Down
#106-left
#107-Right*

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

Yes No 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
- Wading-Adults
- Swimming
- Water skiing
- Diving
- Tubing
- Surfing
- Whitewater-kayaking, canoeing, rafting
- Other: _____
- frequent public swimming-created by publicly owned land / commercial operations

No primary contact activities that commonly occur were observed

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

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

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

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, very steep banks

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

NO Access, private property

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- **Secondary contact recreation 1:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- **Secondary contact recreation 2:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

- 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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

- Fishing
- Boating-commercial, recreational
- Non-white-water-kayaking, rafting, canoeing
- No secondary contact recreation activities were observed
- Other secondary contact activities: _____

b. Individuals observed at the site. None 1-10 11-20 20-50 greater than 50

c. Check ALL 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 (25ft) of water Body far away - 8 and 30 meters (100 ft)

n/a
58 11/19/10

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).

NO Access, very steep banks

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

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: _____

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).

NO Access, very steep banks

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

Private Property, very steep banks

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

n/a

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

SP 11/19/10

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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 20° 30 M Photo's Upstream 103 Downstream 105 Left Bank 106 Right Bank 107
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

Not collected

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	.53m
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	0.53

Not accessible private property

EC 1147
48

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.5m
Width at narrowest point of the stream within 300 meter reach	not collected
Width at the widest point of the stream within 300 meter reach	not collected

SP
11/19/10

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

be

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing 20 30 M Photo's Upstream 103 Downstream 105 Left Bank 104 Right Bank 107
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

transcribed
to wadeable

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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). *viable in pic 105*

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

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

30
4/19/00

EC #47
48

Field Data Sheets – Basic RUA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other: _____

8. 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: Snake picture # 104 - 100 - 105

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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: _____

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

13. 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 access

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	Pandy Bow, Madeline Fargnman	
Date & Time:	5-21-10, 2:50 pm	County Name: Hopkins
Stream Name:	Elm Stream Creek sp 11/19/10	
Segment No. or nearest downstream Segment No.:	46 @ CR 1170	OS12B-02
Description of Site:	46	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the U.A.A.

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 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 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.

~~33° 2.6 N~~
~~95° 41.73 W~~
 Incorrect coordinates; GPS did not clear out. sp 7/16/11

3. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

No Flow cms
 measurement taken sp 7/16/11

4. Water Quality Data (Field Parameters)

Air Temp 30.8 °C Water Temp 23.01 °C

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

<input checked="" type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

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

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

No Access, private property, fenced on both sides, also, steep, poison ivy covered banks. RB sp, 11/21/11

8. Dominant Primary Substrate

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

F-HUES
 # 109 LP
 # 109 Down
 # 110 Left
 # 111 Right

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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).

- | | | |
|--|--|---|
| <input type="checkbox"/> Wading-Children | <input type="checkbox"/> Tubing | <input checked="" type="checkbox"/> No primary contact activities that commonly occur were observed |
| <input type="checkbox"/> Wading-Adults | <input type="checkbox"/> Surfing | |
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Whitewater-kayaking, canoeing, rafting | |
| <input type="checkbox"/> Water skiing | <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Diving | <input type="checkbox"/> frequent public swimming-created by publicly owned land / commercial operations | |

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

c. Check ALL 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 (25ft) of water
- Individual far - 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 due to private property, physical access issues, low depth

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

No Access, private property on both sides

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

- Yes
- No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

- 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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site. None 1-10 11-20 20-50 greater than 50

c. Check ALL 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 (25ft) of water Body far away - 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).

No 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

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

n/a drink water

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).

No Access, very steep, poison ivy covered banks

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

No bank access, private property on both sides

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

 _____ *n/a* _____

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

but not accessible

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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 350° 30 M Photo's Upstream 100 Downstream 109 Left Bank 110 Right Bank 111
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A **substantial pool is >10 meters in length** for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

not accessible

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

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

not accessible, even @ bridge

Field Data Sheets – Basic RUAA 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.

visually estimated at bridge

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing 350 30 M Photo's Upstream 108 Downstream 107 Left Bank 110 Right Bank 111
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

not accessible

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other:

8. 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: _____

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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: _____

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

13. 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 ACCESS

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	<i>Pandy Bow, Madelon Aspin</i>
Date & Time:	<i>5-21-10 3:21pm</i> County Name: <i>710pkins</i>
Stream Name:	<i>Elm Creek</i>
Segment No. or nearest downstream Segment No.:	<i>44 @ State Hwy 19 0512B-02</i>
Description of Site:	<i>44</i>

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

~~33° 02' 41.98" N~~
~~95° 41' 38.98" W~~
I incorrect coordinates; maps at Site #46; Gps did not clear out. st 7/20/10

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. *1.06 cms 2.38 cfs*

4. Water Quality Data (Field Parameters)

Air Temp *30.1* °C Water Temp *24.8* °C

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

- | | | |
|--|--|-----------------------------------|
| <input checked="" type="checkbox"/> Forest | <input type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): _____ |
| <input type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult *7/20/10*

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

Accessible, No parking, steep banks, no fences or private property issues

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

Yes No 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
- Wading-Adults
- Swimming
- Water skiing
- Diving
- Tubing
- Surfing
- Whitewater-kayaking, canoeing, rafting
- Other: _____
- frequent public swimming-created by publicly owned land / commercial operations

No primary contact activities that commonly occur were observed

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

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

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

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 parking, steep banks

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

accessible from S.H. 14, no fences

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water
- Body far away - 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).

steep banks

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

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

n/a

If other, list reasons: _____

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

NONE

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).

Lack of parking, accessible from SH19

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

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

NO UNSAFE CONDITIONS

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 315° 30 M Photo's Upstream 112 Downstream 113 Left Bank 114 Right Bank 115
 Bearing 340° 150 M Photo's Upstream 116 Downstream 117 Left Bank 118 Right Bank 119
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

so 11/19/10
Too deep to wade

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A **substantial pool is >10 meters in length** for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

n/a

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.18
60 meters	0.42
90 meters	0.39
120 meters	0.75
150 meters	1.10
180 meters	Too deep to wade
210 meters	
240 meters	
270 meters	
300 meters	
Average	0.568

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.5m
Width at narrowest point of the stream within 300 meter reach	1m
Width at the widest point of the stream within 300 meter reach	4m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

n/a

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

50

50
11/19/10

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other:

8. 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: _____

9. 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: _____

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

Tracks Fecal droppings Bird nests

11. 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: _____

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

13. 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

Field Data Sheets – Basic RUAA Survey

(to be completed for each site)

Data Collectors & Contact Information:	J. Muir, S. Painter, E. Williams
Date & Time: 6/5/11 @ 10:40am	County Name: Hopkins
Stream Name:	Film Creek
Segment No. or nearest downstream Segment No.:	0512B-02
Description of Site:	# 45- FM 1507

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 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 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.

95° 41' 23.04" W
33° 1' 20.66" N
HDM GIS coverage, SP, 7/7/11

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0.03 cfs trickle (observable, but not measurable)
Estimate SP 7/7/11

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 27.7 °C trickle Water Temp: 25.6 °C

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

<u>R, L</u> Forest	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify):
Mowed/maintained corridor	Denuded/Eroded bank	

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

SP 7/20/11

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

Accessible from FM 1507; steep vegetated banks

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete *mucky*

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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).

- | | | |
|--|--|---|
| <input type="checkbox"/> Wading-Children | <input type="checkbox"/> Tubing | <input checked="" type="checkbox"/> No primary contact activities that commonly occur were observed |
| <input type="checkbox"/> Wading-Adults | <input type="checkbox"/> Surfing | |
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Whitewater-kayaking, canoeing, rafting | |
| <input type="checkbox"/> Water skiing | <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Diving | <input type="checkbox"/> frequent public swimming-created by publicly owned land / commercial operations | |

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

c. Check ALL 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 (25ft) of water
- Individual far - 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).

Low Depth, steep muddy banks

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

steep banks, no parking

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

- Yes
- No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water Body far away - 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).

Low Depth

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:

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).

Low Depth, NO Access Ramps

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 parking, steep banks

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

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

no unsafe conditions

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 340° 30 M Photo's Upstream 120 Downstream 121 Left Bank 122 Right Bank 123
 Bearing 0° 150 M Photo's Upstream 124 Downstream 125 Left Bank 126 Right Bank 127
 Bearing 350° 300 M Photo's Upstream 128 Downstream 129 Left Bank 130 Right Bank 131

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5		<i>n/a</i>	
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	<i>0.32</i>
60 meters	<i>0.54</i>
90 meters	<i>0.102</i>
120 meters	<i>0.08</i>
150 meters	<i>0.40</i>
180 meters	<i>0.12</i>
210 meters	<i>0.53</i>
240 meters	<i>0.31</i>
270 meters	<i>0.33</i>
300 meters	<i>0.14</i>
Average	<i>0.409</i>

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	MF 4.2 3
Width at narrowest point of the stream within 300 meter reach	1.2
Width at the widest point of the stream within 300 meter reach	4

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No *new 7/5/11*

COMMENTS: *No depths ≥ 1.00 m*

2. ~~Non-wadeable Streams~~

~~If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.~~

~~Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____~~

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

n/a

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|--|---|---|--------------------------------------|--|
| <input checked="" type="checkbox"/> Culverts | <input type="checkbox"/> Fences | <input type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Private Property | <input type="checkbox"/> Fence |
| <input type="checkbox"/> No trespass sign | <input type="checkbox"/> Barge/ship traffic |
| <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above |
| <input type="checkbox"/> No public access | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|---|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input checked="" type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other:

8. 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: _____

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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: _____

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

13. 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

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	Kandy Bon, Madeline Cagman
Date & Time:	3-22-10 11:50AM
County Name:	Hopkins
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	43 @ PP of Walter Potts
Description of Site:	ME 43

0512B_02

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.
 dry no flow low normal high flooded

33°41.007" N
95°41'23.83" W

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 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 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.

North of original site (not accessible, CR 1167 was private, did not cross stream as mapped, Walter Potts gave permission to access, more easily accessible from another road.)

3. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0.30 cms 1.07 cfs

4. Water Quality Data (Field Parameters)

Air Temp 29.3 °C Water Temp 23.9 °C

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

<input type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<u>LR</u> <input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult JSW 7/20/11

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

Used trail cows road, parked at gate, walked ~1000 ft to Elm Creek

KB, SP 1/25/11

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

Yes No 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
 - Wading-Adults
 - Swimming
 - Water skiing
 - Diving
 - Tubing
 - Surfing
 - Whitewater-kayaking, canoeing, rafting
 - Other: _____
 - frequent public swimming-created by publicly owned land / commercial operations
- No primary contact activities that commonly occur were observed

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

c. Check ALL 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 (25ft) of water
- Individual far - 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).

Log Jams

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

Private Property

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water Body far away - 8 and 30 meters (100 ft)

n/a
se 11/29/10

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).

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

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).

narrow width

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, 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.

Nil unsafe conditions

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 70° 30 M Photo's Upstream 143 Downstream 144 Left Bank 145 Right Bank 146
 Bearing 50° 150 M Photo's Upstream 147 Downstream 148 Left Bank 149 Right Bank 150
 Bearing 140° 300 M Photo's Upstream 154 Downstream 155 Left Bank 156 Right Bank 157

*Photo # 151-153
Snake*

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

nil

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	<u>0.4</u>
60 meters	<u>0.54</u>
90 meters	<u>0.15</u>
120 meters	<u>0.25</u>
150 meters	<u>0.43</u>
180 meters	<u>0.43</u>
210 meters	<u>0.77</u>
240 meters	<u>0.20</u>
270 meters	<u>0.59</u>
300 meters	<u>0.40</u>
Average	<u>0.426</u>

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	16m
Width at narrowest point of the stream within 300 meter reach	1m
Width at the widest point of the stream within 300 meter reach	3.2m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

JED 7/15/11
No Depths \geq 1.00m

~~2. Non-wadeable Streams~~

~~If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.~~

~~Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____~~

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

n/a

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other:

8. 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: Diamondback water snake, water moccasin ^{5P}
Pic 151-159

9. 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:

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

- Tracks Fecal droppings Bird nests

11. 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:

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

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

Log jams, fallen trees in stream

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	Randy Bow Madeline Langman		
Date & Time:	5-22-10 9:16am	County Name: Hopkins	
Stream Name:	Elm Creek		
Segment No. or nearest downstream Segment No.:	40 @ CR 1163	OS12B-01	
Description of Site:	40		

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

32° 59' 49.24" N
95° 41' 9.174" W

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0.052 cms 1.86 cfs

4. Water Quality Data (Field Parameters)

Air Temp 27.1 °C Water Temp 22.3 °C

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

- | | | |
|--|--|-----------------------------------|
| <input checked="" type="checkbox"/> Forest | <input type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): _____ |
| <input type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |

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

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

NO trail, steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
 Wading-Adults Surfing
 Swimming Whitewater-kayaking, canoeing, rafting
 Water skiing Other:
 Diving frequent public swimming-created by publicly owned land / commercial operations

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

c. Check ALL 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 (25ft) of water Individual far - between 8 and 30 meters (100 ft)
 Not applicable

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

NONE

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

NO PUBLIC ACCESS, NO PARKING, TRAILS

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

- Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

- 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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water
- Body far away - 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).

over grown 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

see 7/20/11 + HA

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

see 11/29/10

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).

over grown Banks

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

no parking, trails, steep Banks

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

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

NO UNSAFE CONDITIONS

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 285° 30 M Photo's Upstream 132 Downstream 133 Left Bank 134 Right Bank 135
 Bearing 270° 150 M Photo's Upstream 136 Downstream 137 Left Bank 138 Right Bank 139
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

#140-142:
Snake pictures

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

n/a

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.49
60 meters	0.66
90 meters	0.75
120 meters	0.74
150 meters	0.60
180 meters	1.0
210 meters	Too deep to wade
240 meters	
270 meters	
300 meters	
Average	0.71 m

0.71m JEW 7/20/11

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5m
Width at narrowest point of the stream within 300 meter reach	3m
Width at the widest point of the stream within 300 meter reach	7m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

~~2. Non-wadeable Streams~~

~~If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.~~

~~Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____~~

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

n/a

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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). *JSW 7/20/11*

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

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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
- Water Surface: clear scum foam debris oil
- Other:

8. 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: Red tail Hawk, water ~~markings~~ ^{sp} pic # 140-142
Moccasin

9. 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: Cricket frogs

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

- Tracks Fecal droppings Bird nests Hear animals

11. 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: Dog food Sack

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

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

~~Antenna~~ Log Jam 180m downstream

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	<i>Randy Bar, Madeline Ferguson</i>
Date & Time:	<i>5-22-10 2:06pm</i> County Name: <i>Travis</i>
Stream Name:	<i>elm creek</i>
Segment No. or nearest downstream Segment No.:	<i>41 0512B-01</i>
Description of Site:	<i>41 @ CR 3475</i>

SP 0/22/10

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

*33° 0' 38.49 N
95° 41' 34.44 W*

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. *.085 cms 3.00 cfs*

4. Water Quality Data (Field Parameters)

Air Temp *30.4 °C* Water Temp *23.6 °C*

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

- | | | |
|--|--|-----------------------------------|
| <input checked="" type="checkbox"/> Forest | <input type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input checked="" type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): _____ |
| <input type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |

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

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

steep banks, parked on SE side of road, access along bridge

RB, SP 4/25/11

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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

Yes No 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
- Wading-Adults
- Swimming
- Water skiing
- Diving
- Tubing
- Surfing
- Whitewater-kayaking, canoeing, rafting
- Other: _____
- frequent public swimming-created by publicly owned land / commercial operations
- No primary contact activities that commonly occur were observed

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

c. Check ALL 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 (25ft) of water
- Individual far - 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).

Log Jams

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

No Parking, trails, steep banks

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water Body far away - 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).

log jams, steep banks, snakes

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

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:

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).

variable depths, low bridge

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).

Rival area, no parking or trails, steep banks

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

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

No unsafe conditions

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing 25° 30 M Photo's Upstream 158 Downstream 159 Left Bank 160 Right Bank 161
 Bearing 85° 150 M Photo's Upstream 162 Downstream 163 Left Bank 164 Right Bank 165
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

n/a

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.67
60 meters	0.83
90 meters	0.58
120 meters	0.51
150 meters	1.55
180 meters	Too deep to wade
210 meters	
240 meters	
270 meters	
300 meters	
Average	0.878 = .878

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	5 m
Width at narrowest point of the stream within 300 meter reach	3 m
Width at the widest point of the stream within 300 meter reach	10 m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

2. ~~Non-wadeable Streams~~

~~If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.~~

~~Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____~~

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

n/a

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Log jams
- Thick vegetation
- Other (specify): _____
- 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
- Rural area
- Residential
- National forests
- Urban/suburban location
- Golf Course
- Sports Field
- Stairs/walkway
- Boating access (ramps)
- Beach
- Bridge crossing
- Commercial boating
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved) *with 11/25/10*
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other:

8. 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:

9. 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: turtles

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

Tracks Fecal droppings Bird nests

11. 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:

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

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

Locals say River floods after a few inches of rain. Garbage fish are mainly in the stream and not best fish to fish.

Field Data Sheets – Basic RUAA Survey

Data Collectors & Contact Information:	Randy Baxx, Madeline Ayman
Date & Time:	5-22-10 ~ 4 pm 10, W. 10th County Name: Falls
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	4E 05128-01
Description of Site:	472 FMS14

Need to see from GPS or 7/22/10

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

32°58'19.31 N
95°40'56.57 W

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 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 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. Stream flow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the stream flow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. na cms *Too deep too wide*

4. Water Quality Data (Field Parameters)

Air Temp

34.2 °C

Water Temp

30.4 °C MF
30.1

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

<input checked="" type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

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

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

Road right to water, walking paths

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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
- Wading-Adults
- Swimming
- Water skiing
- Diving
- Tubing
- Surfing
- Whitewater-kayaking, canoeing, rafting
- Other: _____
- frequent public swimming-created by publicly owned land / commercial operations
- No primary contact activities that commonly occur were observed

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

c. Check ALL 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 (25ft) of water
- Individual far - between 8 and 30 meters (100 ft)
- Not applicable

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

None, actually part of Lake Fork Reservoir

RB, SP
1/25/11

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

easy, road + trail, parking for 7-8 cars

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

- Yes
- No

C. Secondary Contact Water Recreation Evaluation:

- **Secondary contact recreation 1:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- **Secondary contact recreation 2:** Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

- b. Individuals observed at the site.
- None 1-10 11-20 20-50 greater than 50

c. Check ALL 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 (25ft) of water Body far away - 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).

none

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

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

based on trash, foot paths

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).

none

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).

accessible, foot paths, parking

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

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

NO UNSAFE CONDITIONS

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

Too deep

I. 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A **substantial pool is >10 meters in length** for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

Too deep to wade

	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			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

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

Field Data Sheets – Basic RUAA 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.

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	

Too deep to wade

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing 355° 30 M Photo's Upstream 166 Downstream 167 Left Bank 168 Right Bank 169
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

# Measurements	Width (meters)
1	<u>2.42 m</u>
2	
3	
4	
5	
6	
7	
8	
9	
10	

Depth

*R.B. seems to middle with rod
width 20m*

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: *worm boxes, general trash from users*

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: _____

9. 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: _____

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

Tracks Fecal droppings Bird nests

11. 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: _____

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

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

RUNS INTO LAKE FOLK.

Field Data Sheets – Basic RUAA Survey

(to be completed for each site)

Data Collectors & Contact Information: <u>J. Muir, S. Pantar, E. Williams</u>	
Date & Time: <u>6/5/11 @ 7:40 am</u>	County Name: <u>Hopkins</u>
Stream Name: <u>Elm Creek</u>	
Segment No. or nearest downstream Segment No.:	<u>0512B_03</u> <u>SE</u> <u>7/6/11</u>
Description of Site: <u>#49 - Co Rd 1110</u>	

33° 5' 1.48" N
95° 41' 46.06" W
 (from GIS coverage)
 SE 7/6/11

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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

dry cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: _____ °C Water Temp: _____ °C

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

<input type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<u>Broad</u> <input checked="" type="checkbox"/> <u>R, L</u> Shrub dominated corridor	<input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

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

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

Accessible from Co Rd 1110, but fenced on both sides

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete not assessed
most likely

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
Date: 10/5/11

Site: #49
Time: 7:40 am

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
 Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
 Water skiing Diving Other: _____
 frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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).

dry stream, fenced, private property on both sides so

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

so accessible fenced, private property on both sides

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: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #49
Date: 6/5/11 Time: 7:40 am

- b. Check the number of individuals observed at the site.
 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 (25ft) 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).
dry stream
- 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).
dry stream
- 6. Describe why there is limited public access (e.g., lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
fenced, private property on both sides

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.
n/a

Field Data Sheets – Basic RUAA Survey

Stream Name: E. Van Creek Site: #49
 Date: 6/5/11 Time: 7:40 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 225 Downstream 224 Left Bank _____ Right Bank _____ #226 - culvert
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____ #227 - pouring
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

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

Dry

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: #49-COR1110
 Time: 7:40am

- 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.

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

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

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

Field Data Sheets – Basic RUAA Survey

Stream Name: E/m Creek Site: #49
 Date: 6/5/11 Time: 7:40am

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input checked="" type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input checked="" type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input checked="" type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Private Property | <input checked="" type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input checked="" type="checkbox"/> Other: <u>abundant poison ivy</u> | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #49
 Date: 6/5/11 Time: 7:40

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

Dry

8. Vertebrates Observed within 300 meter reach

Dry/not assessed

- 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: _____

9. Mammals Observed within 300 meter reach

Dry/not assessed

- 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: _____

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

not assessed

- Tracks Fecal droppings Bird nests

11. Garbage Observed

- Large garbage in the channel None Rare Common Abundant
 Small garbage in the channel None Rare Common Abundant
 Bank Garbage None Rare Common Abundant

Briefly describe the kinds of garbage observed:

Household garbage dumped in dry channel

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

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

Field Data Sheets – Basic RUAA Survey

(to be completed for each site)

Data Collectors & Contact Information:	J. Mair, S. Prater, E. Williams		
Date & Time:	6/5/11 @ 08:00	County Name:	Hopkins
Stream Name:	Elm Creek		
Segment No. or nearest downstream Segment No.:	0512B-03		
Description of Site:	#47-Co Rd 1171		

23° 4' 22.06" N
 95° 41' 37.53" N
 (from GIS coverage, 8/7/11)

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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0 cfs *not flowing*
SP 7/6/11

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 27.0 C Water Temp: _____ °C *not attainable*

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

<u>B/L</u> Forest <i>from Rd. Crossing</i>	Urban	Rip rap
Shrub dominated corridor	Pasture	Concrete
Herbaceous marsh	Row crops	Other (specify): _____
Mowed/maintained corridor	Denuded/Eroded bank	

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

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

Not accessible.
steep, vegetated banks, fence on both sides

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete *not assessed*

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek

Site: 147

Date: 6/5/11

Time: 800

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
- Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
- Water skiing Diving Other: _____
- frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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, vegetated banks, low to no depth

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

Fenced, private property on both sides

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: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Notations in black ink SP 7/6/11

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
Date: 6/5/11

Site: # 47
Time: 8:00 am

- b. Check the number of individuals observed at the site.
 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 (25ft) 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, vegetated banks; low to no depth
- 3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly
- 4. If infrequently, what is the reason?
 physical characteristics of the water body limited public access other
If other, list reasons: _____
- 5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Same as #2
- 6. Describe why there is limited public access (e.g., lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
Fenced, private property on both sides

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 – Basic RUAA Survey

Stream Name: Elm Creek Site: #47
 Date: 6/5/11 Time: 8:00

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather)

Jan 06/7/11 missing photo

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 228 Downstream 229 Left Bank _____ Right Bank _____ *230 downstream bank access*
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____ *231 upstream culvert*

- a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	<u>-30m (est)</u>	<u>4m</u>	<u>0.80</u>
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

- b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
<u>0</u> 30 meters	<u>0.80</u>
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	<u>0.80</u>

Did not measure, fences on upstream and downstream sides, dry on upstream side until pool on pool ~ 30m upstream; long pool on d/s side

5/7/2014

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: # 47
 Date: 6/5/11 Time: 8:00

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	<u>~4 m d/s of bridge</u>
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: # 47
 Date: 6/5/11 Time: 8:00

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input checked="" type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input checked="" type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Private Property | <input checked="" type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input checked="" type="checkbox"/> No public access |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUA Survey

Stream Name: Elm Creek Site: #47
 Date: 6/5/11 Time: 8:00

7. 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 - dead calf from road
 Color: clear green red brown black
 Bottom Deposit: sludge solids fine sediments none other not assessed
 Water Surface: clear scum foam debris oil
 Other: _____

8. Vertebrates Observed within 300 meter reach *from road crossing*

- 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: ~ 9 turkey vultures observed

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. Garbage Observed

- Large garbage in the channel None Rare Common Abundant *calf carcass in channel*
 Small garbage in the channel None Rare Common Abundant
 Bank Garbage None Rare Common Abundant
 Briefly describe the kinds of garbage observed:

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

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

Field Data Sheets – Basic RUAA Survey
(to be completed for each site)

33° 3.425' N
95° 41.553' W

Data Collectors & Contact Information:	J. Meier, S. Painter, E. Williams
Date & Time:	6/5/11 @ 0815
County Name:	Hopkins
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	0512B-03
Description of Site:	#48 - Co Rd 1116

Notations
in black
ink
6/7/11

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

no cfs no flow observed

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: — °C Water Temp: — °C

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

<u>R, L</u> Forest @ bridge crossing	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

no 7/20/11

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

Not accessible from Co Rd 1116, steep vegetated banks fenced on both sides. Private property.

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete not assessed

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #48
 Date: 6/5/11 Time: 8:15am

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
- Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
- Water skiing Diving Other: _____
- frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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).

Sleep, vegetated banks, shallow depth

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

No public access, fenced on both sides

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: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: # 48
Date: 6/5/11 Time: 8:15 am

- b. Check the number of individuals observed at the site.
 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 (25ft) 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, vegetated banks and shallow depth
- 3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly
- 4. If infrequently, what is the reason?
 physical characteristics of the water body limited public access other
If other, list reasons: _____
- 5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
same as # 2
- 6. Describe why there is limited public access (e.g., lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
No public access, fenced on both sides

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 – Basic RUAA Survey

Stream Name: Elm Creek Site: #48
 Date: 6/5/11 Time: 8:15 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 232 Downstream 233 Left Bank 23 Right Bank 234 - debris below culvert
 Photos #s (150 meters) Upstream Downstream Left Bank Right Bank
 Photos #s (300 meters) Upstream Downstream Left Bank Right Bank 235 - bank access

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why. 236 - trash

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	<u>7m</u>	<u>3.5m</u>	<u>0.40m</u>
Pool 2	<u>~25m</u>	<u>5m</u>	<u>0.40m</u>
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
<u>30 meters</u>	<u>0.40 m</u>
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	<u>Not accessible</u>
210 meters	
240 meters	
270 meters	
300 meters	
Average	<u>0.40 m</u>

One depth measurement was acquired from bridge

SP 7/20/11

Field Data Sheets – Basic RUAA Survey

Stream Name: Flm Creek Site: #4B
 Date: 6/5/11 Time: 8:15 a.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.

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

Assessed from bridge

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at:

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: #48
 Time: 8:15 am

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---|---|---|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input checked="" type="checkbox"/> Fences | <input type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input checked="" type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Private Property | <input checked="" type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input checked="" type="checkbox"/> No public access |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Flm Creek Site: F48
 Date: 6/5/11 Time: 8:15 am

7. Check all water characteristics that apply (Attach photos).

- Aquatic Vegetation: absent rare common abundant *decayed*
 Algae Cover: absent rare common abundant *assess from*
 Odor: none rare common abundant *blood crossing*
 Color: clear green red brown black
 Bottom Deposit: sludge solids fine sediments none other *unknown*
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: _____

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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:

concrete, brick, pvc pipe, bottle

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

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

Field Data Sheets – Basic RUA Survey
(to be completed for each site)

33° 2.701' N
95° 41.669' W

Data Collectors & Contact Information:	J. Muir, S. Painter, F. Williams
Date & Time:	6/5/11 @ 8:30 am
County Name:	Hopkins
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	0512B-02
Description of Site:	#46-Co Rd 1170

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0 cfs *no flow observed*
6-7-11

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 27.3 °C Water Temp: 22.6 °C

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

<u>R,L</u> Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

Accessible from Co Rd 1170, moderately steep, vegetated banks

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete *mucky*

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
Date: 6/5/11

Site: F46
Time: 8:30

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
 Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
 Water skiing Diving Other: _____
 frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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 pools, dry stretches, anoxic, putrid water

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

accessible from Co Rd 1170, located on upstream side, unfenced on down stream side

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: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elon Creek Site: #46
Date: 6/5/11 Time: 08:30am

- b. Check the number of individuals observed at the site.
 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 (25ft) 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).
shallow pools, dry stretches; anoxic, putrid water

- 3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly

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

- 5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
shallow pools, dry stretches; anoxic, putrid 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).
accessible from Co Rd 1170, fenced on w/s side, unfenced on d/s side

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.
n/a

Field Data Sheets – Basic RUAA Survey

Stream Name: E/m Creek Site: #46
 Date: 6/5/11 Time: 8:30 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 237 Downstream 238 Left Bank 239 Right Bank 240 #249-254
 Photos #s (150 meters) Upstream 241 Downstream 242 Left Bank 243 Right Bank 244 channel obstructions
 Photos #s (300 meters) Upstream 245 Downstream 246 Left Bank 247 Right Bank 248 + garbage

- a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	5 m	5 m	0.40 m
Pool 2	25 m	3 m	0.35 m
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

- b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	-
60 meters	-
90 meters	-
120 meters	0.35
150 meters	-
180 meters	-
210 meters	-
240 meters	-
270 meters	-
300 meters	-
Average	0.35

"-" = Dry

SP 7/7/11

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: 46
 Date: 6/5/11 Time: 08:30 am

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4m
Width at narrowest point of the stream within 300 meter reach	3m
Width at the widest point of the stream within 300 meter reach	5m

} pool widths

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: # 46
 Date: 10/5/11 Time: 08:30 am

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input checked="" type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input checked="" type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input checked="" type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> Private Property | <input checked="" type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input checked="" type="checkbox"/> Other: <u>glass shards hanging</u> | <input type="checkbox"/> No roads | |

Comments: reach, most likely from burn barrel remnants
burn barrel

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #46
 Date: 4/5/11 Time: 08:30am

7. 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 sediments none other
 Water Surface: clear scum foam debris oil

Other: no insects, amphipods, fish observed. Dead. *No life in reach.*

8. 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: _____

9. 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: _____

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

- Tracks Fecal droppings Bird nests hog, deer, armadillo, coon tracks

11. 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, buckets, glass bottles, shards abundant

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

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

Crew noted that the creek was reach was the least favorite to date - black water, "dead things" in it, mucky, and a minefield of glass shards

Field Data Sheets – Basic RUA Survey
(to be completed for each site)

33° 1.737' N
95° 41.508' W

Data Collectors & Contact Information:	J. Muir, S. Painter, E. Williams	
Date & Time:	6/5/11 @ 09:40	County Name: Hopkins
Stream Name:	Elm Creek	
Segment No. or nearest downstream Segment No.:	0512B-02	
Description of Site:	#44 - State Highway 19	

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Streamflow
 Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0.01 cfs trickle (observable, but not measurable)
 Estimate SP 7/7/11

4. Water Quality Data (Field Parameters)
 Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 20.7 °C Water Temp: 21.6 °C

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

<u>R,L</u> Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult *SP 7/7/11*

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

Accessible from SH 19; steep, vegetated banks
can drive down near bank on SE side of Rd.

8. Dominant Primary Substrate
 Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
Date: 6/5/11

Site: A44
Time: 9:42 am

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
- Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
- Water skiing Diving Other: _____
- frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) of water
- Individual is well away from water between 8 and 30 meters (100 ft) Not applicable sr 7/7/11

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 intermittent shallow depth, log jams

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

accessible from SH 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? NO

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were observed. sr 7/7/11

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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #44
Date: 6/5/11 Time: 9:40 am

- b. Check the number of individuals observed at the site.
 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 (25ft) 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).
Narrow channel and shallow depths for 90m from bridge with steep vegetated banks

- 3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly

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

- 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).
Narrow channel, shallow depth from bridge to 90m and also steep vegetated banks

- 6. Describe why there is limited public access (e.g., lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
accessible from SH 19

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

N/A

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: A44
 Time: 09:40 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 255 Downstream 256 Left Bank 257 Right Bank 258 #259 - bridge
 Photos #s (150 meters) Upstream 260 Downstream 261 Left Bank 262 Right Bank 263 + russ
 Photos #s (300 meters) Upstream 264 Downstream 265 Left Bank 266 Right Bank 267

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	10 m	4.5 m	1.20 m
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.10
60 meters	0.40
90 meters	0.80
120 meters	0.40
150 meters	1.20
180 meters	1.30
210 meters	1.20
240 meters	0.90
270 meters	0.50
300 meters	0.70
Average	0.71 m

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: 1144
 Time: 9:40 AM

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3m
Width at narrowest point of the stream within 300 meter reach	3.03 - 0.3 m
Width at the widest point of the stream within 300 meter reach	5 m

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No

Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: 044
 Date: 6/5/11 Time: 9:40 am

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---------------------------------------|--|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input checked="" type="checkbox"/> Other (specify): <u>reed/sand bars</u> | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input checked="" type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|--|--|---|
| <input type="checkbox"/> Private Property | <input type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |

Other: bridge/truss over stream (wackable)
 Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek

Site: H 44

Date: 6/15/11

Time: 9:40am

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: snake (1), frogs, minnows, aquatic life

9. 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: _____

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

- Tracks Fecal droppings Bird nests deer, racoon

11. 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:

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

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

Field Data Sheets – Basic RUAA Survey

(to be completed for each site)

Data Collectors & Contact Information:	J. Mair, S. Painter, E. Williams		
Date & Time:	6/5/11 @ 10:40am	County Name: Hopkins	
Stream Name:	Flm Creek		
Segment No. or nearest downstream Segment No.:	0512B-D2		
Description of Site:	#45- FM 1567		

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 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 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.

15° 41' 23.04" W
 33° 1' 20.66" N
 (from GIS coverage, SP, 7/7/11)

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0.03 cfs *trickle (observable, but not measurable)*
Estimate SP 7/7/11

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 27.7 °C *trickle* Water Temp: 25.6 °C

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

<input checked="" type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult *SP 7/20/11*

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

Accessible from FM 1567; steep vegetated banks

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete *mucky*

Field Data Sheets – Basic RUAA Survey

Stream Name: Flm Creek
Date: 6/5/11

Site: #45
Time: 10:40

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
- Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
- Water skiing Diving Other: _____
- frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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 depth, channel obstructions (logs), thick aquatic vegetation in channel (210m to 300m), muddy stream bottom, poisonous snake

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

Accessible from FM 1507

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: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: elm Creek Site: A45
Date: 6/5/11 Time: 10:40

- b. Check the number of individuals observed at the site.
 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 (25ft) 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).
shallow depth, channel obstructions (logs), thick aquatic vegetation in the early 910 m to 300 m, muddy stream bottom, poisonous snakes
3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly
4. If infrequently, what is the reason?
 physical characteristics of the water body limited public access other
If other, list reasons: _____
5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
same as #2
6. Describe why there is limited public access (e.g., lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
accessibility for FM 1567

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 – Basic RUAA Survey

Stream Name: Elm Creek Site: #45
 Date: 4/03/11 Time: 10:40 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 272 Downstream 273 Left Bank 274 Right Bank 275 *268-271; 276;*
 Photos #s (150 meters) Upstream 277 Downstream 278 Left Bank 279 Right Bank 280 *285-288*
 Photos #s (300 meters) Upstream 281 Downstream 282 Left Bank 283 Right Bank 284 *Shales, gauging*

- a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	<u>20 m</u>	<u>4.5 m</u>	<u>0.40 m</u>
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

- b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	<u>0.25</u>
60 meters	<u>0.50</u>
90 meters	<u>0.20</u>
120 meters	<u>0.40</u>
150 meters	<u>0.20</u>
180 meters	<u>0.50</u>
210 meters	<u>0.15</u>
240 meters	<u>0.30</u>
270 meters	<u>0.20</u>
300 meters	<u>0.10</u>
Average	<u>0.28m</u>

Field Data Sheets – Basic RUAA Survey

Stream Name: E. In Creek Site: R45
 Date: 6/5/11 Time: 10:40

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0.2m 1.5m
Width at narrowest point of the stream within 300 meter reach	0.30 m
Width at the widest point of the stream within 300 meter reach	2.5 m

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at

Photos #s (30 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #45
 Date: 6/5/11 Time: 10:40

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---------------------------------------|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input checked="" type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|--|--|---|
| <input type="checkbox"/> Private Property | <input type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #45
 Date: 6/5/11 Time: 10:40

7. Check all water characteristics that apply (Attach photos).

- Aquatic Vegetation: absent rare common abundant *common from 210-300 m, mostly hyacinth*
 Algae Cover: absent rare common abundant
 Odor: none rare common abundant *stinks when stirred up*
 Color: clear green red brown black
 Bottom Deposit: sludge solids fine sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: snakes (4, incl. 2 water moccasins)

9. 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: _____

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

- Tracks Fecal droppings Bird nests *duck, racoon*

11. 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:

Roasted nut butter jar, beer cans, household 50 gallon drums (2)

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

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

n/a

Field Data Sheets – Basic RUAA Survey

(to be completed for each site)

Data Collectors & Contact Information: <u>Josh White, Eric Williams</u>	
Date & Time: <u>7/8/11 @ 3:00 PM</u>	County Name: <u>Hopkins</u>
Stream Name: <u>Elm Creek</u>	<u>0512B-02</u>
Segment No. or nearest downstream Segment No.: <u>Walter Potts Property</u>	
Description of Site: <u>Elm Creek # 43</u>	

SP 7/10/11

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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

Zero flow cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 40.0 °C Water Temp: 31.0 °C

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

<input type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<input type="checkbox"/> Shrub dominated corridor	<input checked="" type="checkbox"/> <u>R, L</u> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy SEW Moderately easy Moderately difficult Difficult

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

Through Gates of W G Potts property

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 7/8/11

Site: #43
 Time: 3:00 pm

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
 Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
 Water skiing Diving Other: _____
 frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) of water
 Individual is well away from water between 8 and 30 meters (100 ft) Not applicable sp 7/10/11

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).

Private property, steep slopes and 3 shallow pools of water < .30m deep.

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

no

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUA Survey

Stream Name: Elm Creek

Site: # 43

Date: 7/8/11

Time: 3:00pm

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

- 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 (25ft) 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 shallow ponds < .30 m deep, steep slopes, private property

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

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

4. If infrequently, what is the reason?

- physical characteristics of the water body
- limited public access
- other

If other, list reasons: _____

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).

Not sufficient water, dry areas.

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).

Gates restrict access

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

N/A

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #43
 Date: 7/8/11 Time: 2:00 pm

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 906 Downstream 907 Left Bank 908 Right Bank 909 910 - Log Jam
 Photos #s (150 meters) Upstream 911 Downstream 912 Left Bank 913 Right Bank 914
 Photos #s (300 meters) Upstream 915 Downstream 916 Left Bank 917 Right Bank 918 919 - Fence across channel

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	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			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	<u>0.20m</u>
60 meters	<u>—</u>
90 meters	<u>0.10m</u>
120 meters	<u>—</u>
150 meters	<u>—</u>
180 meters	<u>—</u>
210 meters	<u>—</u>
240 meters	<u>—</u>
270 meters	<u>0.20m</u>
300 meters	<u>—</u>
Average	<u>0.17m</u>

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #43
 Date: 7/18/11 Time: 3:00 pm

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	1.0
Width at narrowest point of the stream within 300 meter reach	1.0
Width at the widest point of the stream within 300 meter reach	2.5

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at

Photos #s (30 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

Field Data Sheets – Basic RUA Survey

Stream Name: Elm Creek Site: # 43
 Date: 7/8/11 Time: 3:00 pm

F. Additional RUA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input checked="" type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input checked="" type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input checked="" type="checkbox"/> Other (specify): <u>Garbage</u> | | | |

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

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input checked="" type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Private Property | <input checked="" type="checkbox"/> Fence | <input checked="" type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input checked="" type="checkbox"/> No public access |
| <input checked="" type="checkbox"/> Other: <u>No sufficient</u> | <input type="checkbox"/> No roads | |

Comments: Water

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

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input checked="" type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 7/8/11

Site: #43
 Time: 3:00 pm

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: 1 water snake

9. 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: 20 head of livestock

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

Tracks Fecal droppings Bird nests

11. 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:
Coolers and household

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

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

Stream bed is mud w/ intermittent pools < .30 M
deep.

Field Data Sheets – Basic RUAA Survey
(to be completed for each site)

32° 59.822' N
95° 41.203' W

Data Collectors & Contact Information:	J. Muir, S. Painter, E. Williams
Date & Time:	6/5/11 @ 12:00 County Name: Hopkins
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	0512B-01
Description of Site:	#40 - Co Rd 1163

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

0.26 cfs *sp 7/7/11*

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 26.7 °C Water Temp: 24.2 °C

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

<u>R,L</u> Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: Easy Moderately easy Moderately difficult Difficult *sp 7/20/14*

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

Accessible from Co Rd 1163 bridge; steep, vegetated banks

8. Dominant Primary Substrate

Cobble Sand Silt Mud/Clay Gravel Bedrock Rip rap Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek

Site: F40

Date: 12/5/11

Time: 12:00

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
 Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
 Water skiing Diving Other: _____
 frequent public swimming-created by publicly owned land or commercial operations

- b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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, vegetated banks, snakes, logs in channel, muddy, slippery bottom, uneven bottom, murky water

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

Accessible from the below bridge; No trespassing sign on NW side of bridge

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

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
Date: 6/5/11

Site: #40
Time: 12:00

- b. Check the number of individuals observed at the site.
 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 (25ft) 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 vegetated banks, snakes, logs in channel, slippery bottom, uneven bottom, murky water
3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? frequently infrequently
Please describe how often the activities occur? Unknown Never Daily Monthly Yearly
4. If infrequently, what is the reason?
 physical characteristics of the water body limited public access other
If other, list reasons: _____
5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
same as #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).

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: 140
 Time: 12:00

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 289 Downstream 290 Left Bank 291 Right Bank 292
 Photos #s (150 meters) Upstream 293 Downstream 294 Left Bank 295 Right Bank 296
 Photos #s (300 meters) Upstream 298 Downstream 299 Left Bank 300 Right Bank 301

*1297 - Snake
 302 - Utl. Pipe
 303 - Swallow Nest
 304 - Diapers
 305 - Craftiti*

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	7.0 m	4.0 m	1.0 m
Pool 2	8.0 m	5.0 m	1.5 m
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.95
60 meters	0.80
90 meters	0.95
120 meters	1.0
150 meters	0.80
180 meters	0.50
210 meters	1.10
240 meters	1.10
270 meters	0.70
300 meters	0.60
Average	0.85 m

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: 240
 Date: 6/5/11 Time: 12:00

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.5 m
Width at narrowest point of the stream within 300 meter reach	3 m
Width at the widest point of the stream within 300 meter reach	6.5 m

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .

Photos #s (30 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (150 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___
 Photos #s (300 meters) Upstream ___ Downstream ___ Left Bank ___ Right Bank ___

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek
 Date: 6/5/11

Site: #40
 Time: 12:00

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|--|---|--|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input type="checkbox"/> Fences | <input checked="" type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input checked="" type="checkbox"/> Utility pipe | <input type="checkbox"/> Other (specify): _____ | | | |

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

- | | | | |
|--|---|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input type="checkbox"/> Trails/paths (hiking/biking) | <input type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|---|--|---|
| <input type="checkbox"/> Private Property | <input type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input checked="" type="checkbox"/> Steep slopes | <input type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input checked="" type="checkbox"/> Other: <u>veg @ entry</u> | <input type="checkbox"/> No roads | |

Comments: veg @ entry

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

- | | | | |
|---|---|--|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play | |
| <input checked="" type="checkbox"/> Other: <u>Grass</u> | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #40
 Date: 6/5/11 Time: 12:00

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: snake (1), duck

9. 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: _____

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

- Tracks Fecal droppings Bird nests tracks

11. 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:

55 gallon drum, fire, bear cans, diapers, mop handle, lacrosse sticks on bank at rd. crossing

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

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

Field Data Sheets – Basic RUAA Survey
(should be completed for each site)

32.97214° N
95.68720° W

Data Collectors & Contact Information:	S. Parter, J. White, E. Williams
Date & Time:	6/10/11 @ 7:45 am
Stream Name:	Elm Creek
Segment No. or nearest downstream Segment No.:	0512B-01
Description of Site:	#41 - Co Rd 3425

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0.29 cfs *sp 7/7/11*

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 25.4 °C Water Temp 23.8 °C

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

<input type="checkbox"/> Forest	<input type="checkbox"/> Urban	<input type="checkbox"/> Rip rap
<u>R,L</u> <input checked="" type="checkbox"/> Shrub dominated corridor	<input type="checkbox"/> Pasture	<input type="checkbox"/> Concrete
<input type="checkbox"/> Herbaceous marsh	<input type="checkbox"/> Row crops	Other (specify): _____
<input type="checkbox"/> Mowed/maintained corridor	<input type="checkbox"/> Denuded/Eroded bank	

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

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

Accessible from Co Rd 3425, moderately steep, vegetated banks *sp 7/7/11*

8. Dominant Primary Substrate

Cobble Sand Silt ~~clay~~ / Clay Gravel Bedrock Rip rap Concrete

6/10/11
@ 7:45am

Elm Creek #41

Field Data Sheets – Basic RUAA Survey

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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).

- | | | |
|--|--|---|
| <input type="checkbox"/> Wading-Children | <input type="checkbox"/> Tubing | <input checked="" type="checkbox"/> No primary contact activities that commonly occur were observed |
| <input type="checkbox"/> Wading-Adults | <input type="checkbox"/> Surfing | |
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Whitewater-kayaking, canoeing, rafting | |
| <input type="checkbox"/> Water skiing | <input type="checkbox"/> Other: _____ | |
| <input type="checkbox"/> Diving | <input type="checkbox"/> frequent public swimming-created by publicly owned land / commercial operations | |

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

c. Check ALL 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 (25ft) of water Individual far - 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).

log jams, low depth, channel obstruction, snakes

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

Accessible from Co Rd 3425

4. Are areas with primary contact recreation activities/ bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. w/in 5 miles upstream and downstream) this site?

Yes No

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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

a. Type of secondary contact recreation activities observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

b. Individuals observed at the site.

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

c. Check ALL 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 (25ft) of water Body far away - 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).

Log jams, low depth, channel obstructions, snakes

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

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

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

If other, list reasons:

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

same as 2

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

Accessible from Co Rd 3425

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: Wadeable Non-wadeable

I. 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Bearing _____ 30 M Photo's Upstream 1 Downstream 2 Left Bank 3 Right Bank 4
 Bearing _____ 150 M Photo's Upstream 7 Downstream 8 Left Bank 9 Right Bank 10
 Bearing _____ 300 M Photo's Upstream 18 Downstream 19 Left Bank 17 Right Bank 16

#5,6 - snake
 #11-17 - eggs
 log jams, fence
 #20 - tril

a) Substantial pools - Measure the length, width (@ widest point) and depth of each pool (if > 10 pools only measure 10 pools). A substantial pool is >10 meters in length for a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	12.0	15.0	1.0
Pool 2	20	7.0	0.70
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.70
60 meters	0.45
90 meters	0.30
120 meters	0.40
150 meters	1.0
180 meters	0.25
210 meters	1.00
240 meters	0.20
270 meters	0.45
300 meters	0.70
Average	0.55m

Field Data Sheets – Basic RUAA 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	4.0 m
Width at narrowest point of the stream within 300 meter reach	0.5 m
Width at the widest point of the stream within 300 meter reach	7.0 m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 COMMENTS:

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Bearing _____ 30 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 150 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Bearing _____ 300 M Photo's Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

Field Data Sheets – Basic RUAA Survey

F. Stream Site Location Summary

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
- Log jams
- Thick vegetation
- Other (specify): 2nd to 15
- 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
- Trails/paths (hiking/biking)
- Paved parking lot
- Unimproved parking lot
- Roads (paved/unpaved)
- Populated area
- Docks or rafts
- Commercial outfitter
- Nearby school
- Power Line Corridor
- Parks (national/city/county/state)
- Public Property
- Other: _____
- None of the Above

Comments: _____

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

- Private Property
- No trespass sign
- Wildlife
- Steep slopes
- No public access
- No roads
- Fence
- Barge/ship traffic
- Industrial
- None of the Above
- Other: _____

Comments: _____

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: _____
- RV/ATV Tracks
- Camping Sites
- Fire pit/ring
- Fishing Tackle
- NPDES Discharge
- Gates on corridor
- Children's toys
- Remnant's of Kid's play
- Organized event
- No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other:

8. 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: 1 large snake

9. 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:

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

Tracks Fecal droppings Bird nests

11. 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: mattress, water heater, gas can

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

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

Field Data Sheets – Basic RUAA Survey
(to be completed for each site)

32.95032° N
95.69183° W

Data Collectors & Contact Information:	S. Painter, J. White, E. Williams	
Date & Time:	6/10/11 @ 9:30 am	County Name: Raines Co
Stream Name:	Elm Creek	
Segment No. or nearest downstream Segment No.:	0512B-01	
Description of Site:	#42 - FMS14	

A. Stream Characteristics:

- Check the following channel flow status that applies.
 dry no flow low normal high flooded
- 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 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 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. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites.

3.45 cfs SA 7/7/11

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp: 27.4 °C Water Temp: 28.9 °C

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

- | | | |
|--|--|-----------------------------------|
| <input type="checkbox"/> Forest | <input type="checkbox"/> Urban | <input type="checkbox"/> Rip rap |
| <input type="checkbox"/> Shrub dominated corridor | <input type="checkbox"/> Pasture | <input type="checkbox"/> Concrete |
| <u>R,L</u> <input type="checkbox"/> Herbaceous marsh | <input type="checkbox"/> Row crops | Other (specify): _____ |
| <input type="checkbox"/> Mowed/maintained corridor | <input type="checkbox"/> Denuded/Eroded bank | |

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

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

Accessible from FMS14, unimproved parking area d/s side of bridge

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: # 42
Date: 6/10/11 Time: 9:30 am

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

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 No primary contact activities that commonly occur were observed
- Wading-Adults Surfing Swimming Whitewater-kayaking, canoeing, rafting
- Water skiing Diving Other: _____
- frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: None 1-10 11-20 20-50 >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 (25ft) 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).

Vegetated banks, some muck

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

Accessible from FM 514

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

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.

- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

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 were 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: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek

Site: #42

Date: 6/10/11

Time: 9:30am

- b. Check the number of individuals observed at the site.
 - 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 (25ft) 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).

no hindering characteristics observed, -

- 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 *based on evidence*

- 4. If infrequently, what is the reason?

physical characteristics of the water body limited public access other

If other, list reasons: _____

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

same as #2

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

Accessible from FMS14

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 – Basic RUAA Survey

Stream Name: Elm Creek Site: # 42
 Date: 6/10/11 Time: 9:30 am

E. Stream Channel and Substantial Pools Measurements

Please check the following which best describes the river or stream: 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 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (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 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream 21 Downstream 22 Left Bank 23 Right Bank 24 #33 aquatic vegetation
 Photos #s (150 meters) Upstream 25 Downstream 28 Left Bank 26 Right Bank 27 #34, 34 - minor log jam
 Photos #s (300 meters) Upstream 29 Downstream 30 Left Bank 31 Right Bank 32 (still passable via kayak)

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1	<u>8</u>	<u>6</u>	<u>1.5</u>
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

#36 → 43
 bird nests,
 (local approx)
 secondary
 recreation
 evidence
 incl fire
 ring

b) Average depth at the thalweg - Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	<u>1.4</u>
60 meters	<u>1.6</u>
90 meters	<u>1.2</u>
120 meters	<u>0.6</u>
150 meters	<u>1.3</u>
180 meters	<u>0.9</u>
210 meters	<u>1.3</u>
240 meters	<u>1.4</u>
270 meters	<u>1.5</u>
300 meters	<u>1</u>
Average	<u>1.22m</u>

obtained
 via kayak (Josh W.)

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #42
 Date: 6/10/11 Time: 9:30am

- 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.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6.0 m 3.0 1.5 1.5
Width at narrowest point of the stream within 300 meter reach	3.0 m
Width at the widest point of the stream within 300 meter reach	sp 7/7/11 1.5W 3.5 12.5 m

- d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? Yes No
 Comments: _____

2. Non-wadeable Streams

If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at _____

Photos #s (30 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (150 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____
 Photos #s (300 meters) Upstream _____ Downstream _____ Left Bank _____ Right Bank _____

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Elm Creek Site: #42
 Date: 6/10/11 Time: 9:30 am

F. Additional RUAA Information

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

- | | |
|---|---|
| <input type="checkbox"/> Drinking or water in mouth | <input type="checkbox"/> Playing on shoreline |
| <input type="checkbox"/> Bathing | <input type="checkbox"/> Picnicking |
| <input type="checkbox"/> Walking | <input type="checkbox"/> Motorcycle/ATV |
| <input type="checkbox"/> Jogging/running | <input type="checkbox"/> Hunting/Trapping |
| <input type="checkbox"/> Bicycling | <input type="checkbox"/> Wildlife watching |
| <input type="checkbox"/> Standing | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Sitting | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> 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).

- | | | | | |
|---------------------------------------|--|---|--------------------------------------|--|
| <input type="checkbox"/> Culverts | <input type="checkbox"/> Fences | <input type="checkbox"/> Log jams | <input type="checkbox"/> Rip rap | <input type="checkbox"/> Water control structure |
| <input type="checkbox"/> Barbed wire | <input type="checkbox"/> Dams | <input type="checkbox"/> Thick vegetation | <input type="checkbox"/> Low bridges | <input type="checkbox"/> None |
| <input type="checkbox"/> Utility pipe | <input checked="" type="checkbox"/> Other (specify): <u>log debris</u> | | | |

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

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Campgrounds | <input type="checkbox"/> Stairs/walkway | <input checked="" type="checkbox"/> Roads (paved/unpaved) | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Playgrounds | <input type="checkbox"/> Boating access (ramps) | <input type="checkbox"/> Populated area | <input type="checkbox"/> None of the Above |
| <input checked="" type="checkbox"/> Rural area | <input type="checkbox"/> Beach | <input type="checkbox"/> Docks or rafts | |
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Bridge crossing | <input type="checkbox"/> Commercial outfitter | |
| <input type="checkbox"/> National forests | <input type="checkbox"/> Commercial boating | <input type="checkbox"/> Nearby school | |
| <input type="checkbox"/> Urban/suburban location | <input checked="" type="checkbox"/> Trails/paths (hiking/biking) | <input checked="" type="checkbox"/> Power Line Corridor | |
| <input type="checkbox"/> Golf Course | <input checked="" type="checkbox"/> Paved parking lot | <input type="checkbox"/> Parks (national/city/county/state) | |
| <input type="checkbox"/> Sports Field | <input checked="" type="checkbox"/> Unimproved parking lot | <input type="checkbox"/> Public Property | |

Comments: _____

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

- | | | |
|---|---|---|
| <input type="checkbox"/> Private Property | <input type="checkbox"/> Fence | <input type="checkbox"/> No trespass sign |
| <input type="checkbox"/> Barge/ship traffic | <input type="checkbox"/> Wildlife | <input type="checkbox"/> Industrial |
| <input type="checkbox"/> Steep slopes | <input checked="" type="checkbox"/> None of the Above | <input type="checkbox"/> No public access |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> No roads | |

Comments: _____

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

- | | | | |
|---|--|---|--|
| <input checked="" type="checkbox"/> Roads | <input type="checkbox"/> RV/ATV Tracks | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Organized event |
| <input type="checkbox"/> Rope swings | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Gates on corridor | <input type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform | <input checked="" type="checkbox"/> Fire pit/ring | <input type="checkbox"/> Children's toys | |
| <input checked="" type="checkbox"/> Foot paths/prints | <input checked="" type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnants of Kid's play | |
| <input type="checkbox"/> Other: _____ | | | |

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Elna Creek Site: #42
 Date: 6/10/11 Time: 9:30

7. 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 sediments none other
 Water Surface: clear scum foam debris oil
 Other: _____

8. 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: abundant turtles, 1 snake observed,

9. 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: _____

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

- Tracks Fecal droppings Bird nests

11. 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: fire at bridge, rare in remainder of reach

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

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

lots of evidence of secondary contact recreational activities observed, including bait containers, lure sacks, fire ring, pole stand w/ water bottle, & drink bottles

