

Recreational Use Attainability Analysis of Duck Creek (Segment 1209H)

**Appendix 2**

**Field Data Sheets**

**\* The Microsoft Access database with field survey data is available as an electronic supplement on the CD insert found in Appendix 5**

**Field Data Sheets – Basic RUAA Survey**

(should be completed for each site)

Data Collectors & Contact Information:	/ Roy J. Wright, K. Condra, C. Greene	
Date & Time:	5/29/01 1415-2-4428	County Name: Robertson
Stream Name:	Duck Creek	
Segment No. or nearest downstream Segment No.:	1209 H	
Description of Site:	White Rock Rd @ Duck Creek	#1

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. \_\_\_\_\_ cfs No Flow taken unable to access water

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 32 °C Water Temp \_\_\_\_\_ °C 24 °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>L,R</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):

Bank is overgrown, then drops off steeply

8. Dominant Primary Substrate

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

E  
AH  
QC  
SD

Field Data Sheets – Basic RUAA Survey

Stream Name Duck Creek Site: #1  
Date: 5/29/10 Time: 1415 - 1428

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 or commercial operations

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

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

- Water in mouth or nose of the individual  Primary touch: Individual's body (or portion) immersed in water
- Secondary touch: fishing, pets and related contact with water  Individual is in a boat touching water
- Individual is on shore near water within 8 meters (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).

It is too difficult to get to the water -  
overgrown bank, then drops off

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

road across creek - 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 Duck Creek  
Date: 5/29/10

Site: #1  
Time: 1415 - 1428

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

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

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

- Secondary touch: fishing, pets and related contact with water    In a boat touching water  
 Body on shore near water within 8 meters (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).

SAME

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

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

If other, list reasons: N/A

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

SAME

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

SAME

**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 Duck Creek Site: #1  
 Date: 5/28/10 FDS Page 3 of 8 Time: 1415 - 1428

**E. Stream Channel and Substantial Pool:**

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

*Depth 2 ft @ Bridge*

**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.

*@ Bridge*  
 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 \_\_\_

*6/7/10 KC  
 upstream, left / right banks  
 from Bridge -  
 graffiti*

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	
<b>Average</b>	

### Field Data Sheets – Basic RUAA Survey

Stream Name Duck Creek Site: #1  
 Date: 5/28/10 Time: 1415 - 1428

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	28 ft.   8.53m
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

at 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 Duck Creek Site: # 1  
 Date: 5/28/10 Time: 1415 - 1428

**F. Additional RUAA Information**

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
- 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: thick vegetation on banks

Comments: fences under bridge, along banks (both)

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

- Roads
- Rope swings
- Dock/platform
- Foot paths/prints
- Other: Rifle shell, graffiti
- 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

Stream Name Duck Creek

Site: # 1

Date: 5/29/10

Time: 1415 - 1420

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 - don't know

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 deer

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, egg carton

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)

Data Collectors & Contact Information: <u>L. Ray, K. Condra, J. Wraast, C. Greene</u>	
Date & Time: <u>5/29/10 1459-1529</u>	County Name: <u>Robertson</u>
Stream Name: <u>Duck Creek</u>	
Segment No. or nearest downstream Segment No.: <u>1209 H</u>	
Description of Site: <u>FM 979 @ Duck Creek #2</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.*

**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. 0.155 cfs Flow too low to register

4. Water Quality Data (Field Parameters) -0.148 cfs

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 30 °C      Water Temp 24.5 °C

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

- |                           |                     |                        |
|---------------------------|---------------------|------------------------|
| <u>L, R</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):

Concrete under bridge allows access, slightly steep

8. Dominant Primary Substrate

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

E QC  
AH SB

Field Data Sheets – Basic RUAA Survey

Stream Name Duck Creek  
Date: 5/28/10

Site: #2  
Time: 1459-1529

**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 or 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 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).

low flow, dark water, shallow, some trees down in the water, fence across creek downstream

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

Bridge across creek

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 Duck Creek  
Date: 5/28/10

Site: #2  
Time: 1459 - 1529

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

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

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

- Secondary touch: fishing, pets and related contact with water  In a boat touching water  
 Body on shore near water within 8 meters (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).

Same

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

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

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

If other, list reasons:

N/A

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

Same

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, creek fenced off downstream

**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 Deck Creek Site: #2  
 Date: 5/28/10 FDS Page 3 of 8 Time: 5:00 pm - 1529  
1459

**E. Stream Channel and Substantial Pool**

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  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

*across water*  
*barb wire above 120 m*  
*mark, 30m, 180m,*  
*raccoon trap, fence across*  
*water downstream of*  
*bridge*

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	0.36 ft	.11 m
60 meters	.79	.88
90 meters	0.94	.27
120 meters	1.18	.24
150 meters	1.45	.44
180 meters	2.0	.61
210 meters		
240 meters		
270 meters		
300 meters		
<b>Average</b>		<b>.425 m</b>

*bridge*  
*Did not finish,*  
*fence across*  
*water downstream*  
*of bridge*

### Field Data Sheets – Basic RUAA Survey

Stream Name Duck Creek Site: #2  
 Date: 5/28/10 Time: 1459 - 1529

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	196+	5.79 m
Width at narrowest point of the stream within 300 meter reach	5.2ft	1.58 m
Width at the widest point of the stream within 300 meter reach	21.1ft	6.43 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 Duck Creek Site: #2  
 Date: 5/28/10 Time: 1459-1529

**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 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>fallen trees &amp; debris</u> |   |                                      |  |

*\* Fence is across the water, but above the water level*

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 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 type="checkbox"/> Other: _____       |
| <input type="checkbox"/> No roads         |   |

Comments: \_\_\_\_\_

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 type="checkbox"/> No Human Presence |
| <input type="checkbox"/> Dock/platform                | <input type="checkbox"/> Fire pit/ring  | <input type="checkbox"/> Children's toys         |  |
| <input checked="" type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Remnant's of Kid's play |  |

Other: traps (raccoon)

Comments: \_\_\_\_\_

**Field Data Sheets – Basic RUAA Survey**

Stream Name Duck Creek Site: #2  
 Date: 5/28/10 Time: 1459-1529

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 **RACCOON in a TRAP**  
 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 **Dead Bird in the water**  
**RACCOON, cattle, deer**

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 **on the side of the Road**  
 Briefly describe the kinds of garbage observed: there were DEER CANS

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)

Data Collectors & Contact Information: <u>L. Roy, K. Condra, J. Wraast, C. Greene</u>	
Date & Time: <u>5/29/10 1556-1601</u>	County Name: <u>Robertson</u>
Stream Name: <u>Duck Creek</u>	
Segment No. or nearest downstream Segment No.: <u>1209H</u>	
Description of Site: <u>Fm 2096 Site # 3</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.*

### 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. \_\_\_\_\_ cfs

*Stream not deep enough to take flow, only one velocity measurement at deepest point midstream*

### 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 \_\_\_\_\_

31.5 °C

Water Temp \_\_\_\_\_

24.5 °C  
*Secchi: .59*

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):

Concrete under Bridge Allows Access, but slightly steep

### 8. Dominant Primary Substrate

Cobble    Sand    Silt    Mud/Clay    Gravel    Bedrock    Rip rap    Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Duck Site: # 3  
Date: 5/24/10 Time: 1556-1601

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 or 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 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).

Fenced across, water up & downstream  
shallow water, lack of parking

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

bridge across road but no parking

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 Duck Site: #3  
Date: 3/29/10 Time: 1556-1601

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

c. Check the following that apply regarding the individuals proximity to the water body. N/A  
 Secondary touch: fishing, pets and related contact with water  In a boat touching water  
 Body on shore near water within 8 meters (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).  
SAME

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

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

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

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

**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 Duck Site: #13  
 Date: 5/28/10 FDS Page 3 of 8 1556-1601

**E. Stream Channel and Substantial Pool:**

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 \_\_\_ 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 \_\_\_

*pictures @  
 bridge /  
 photos of  
 upstream  
 fence*

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	
<b>Average</b>	

### Field Data Sheets – Basic RUAA Survey

Stream Name Duck Site: #3  
 Date: 5/29/10 Time: 1556-1601

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	<del>4.9 ft.</del> = 1.49 m
Width at the widest point of the stream within 300 meter reach	110.2 = 4.94 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: Duck Site: #3  
 Date: 3/28/10 Time: 1556-1601

### 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: Fence was not constructed to restrict but do because debris was caught in it.

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 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 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 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 Duck Site: #3  
 Date: 5/20/10 Time: 1556-1601

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  
deer, RACCOON

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: Newspaper, plastic garbage

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

Stream Name Duck Creek Site: #4
Date: 5/28/10 Time: 1613-1719

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 or commercial operations

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

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

- Water in mouth or nose of the individual, Secondary touch: fishing, pets and related contact with water, Individual is on shore near water within 8 meters (25ft) of water

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)

NARROW, big chunks of concrete around Bridge, trees down on bank, Bank erosion

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

Bridge crossing, unimproved parking lot near 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 Duck Creek Site: #4  
Date: 5/28/10 Time: 1613-1719

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

c. Check the following that apply regarding the individuals proximity to the water body. N/A  
 Secondary touch: fishing, pets and related contact with water     In a boat touching water  
 Body on shore near water within 8 meters (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).  
Same

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

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

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

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

#### 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

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### E. Stream Channel and Substantial Pool

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  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

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	1.0 ft	.30 m
60 meters	3.0 ft	.94
90 meters	2.5	.76
120 meters	1.58	.48
150 meters	1.05	.32
180 meters	2.34	.71
210 meters	.60	.18
240 meters	1.9	.58
270 meters	0.55	.17
300 meters	0.75	.23
<b>Average</b>		<b>.467 m</b>

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	17 ft   5.18 m
Width at narrowest point of the stream within 300 meter reach	8 ft   2.44 m
Width at the widest point of the stream within 300 meter reach	29 ft   8.84 m

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

COMMENTS:

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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	

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**F. Additional RUAA Information**

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
- Dams
- Other (specify): fallen trees
- Rip rap
- Thick vegetation
- 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: \_\_\_\_\_

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**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 chunks of concrete  
 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: 2 snakes

**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, raccoon

**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).

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

