Recreational Use Attainability Analysis of Shepherd Creek (Segment 1209J)

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: [Handwritten]
Date & Time: 5/29/10 11:43 - 12:33 County Name: Madison
Stream Name: Shepard Creek
Segment No. or nearest downstream Segment No.: 12093
Description of Site: #1 FM 1452 & Shepard Creek

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 RUAA.

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 Flowing 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
   Water Temp: ______ °C
   Secchi tube: ______ m

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

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): ______ across water up/down banks very easy slopes, fences

8. Dominant Primary Substrate
   [Handwritten]

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Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Date: 5/29/18
Site: #1
Time: 1143-1655

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 (25 ft) of water   □ Individual is well away from water between 8 and 30 meters (100 ft)   □ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
   Little water, stagnant, no flow, shallow

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
   Can pull off road to park

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

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Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Date: 5/29/10
Site: #1
Time: 11:48 - 11:55

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

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

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

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

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).

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: Shepard Creek
Site: #1
Date: 5/29/18
Time: 1143–1155

E. Stream Channel and Substantial Pool:
Please check the following which best describes the river or stream: X 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.

<table>
<thead>
<tr>
<th>Pool</th>
<th>Length (meters)</th>
<th>Width (meters)</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool 1</td>
<td>2.5 ft</td>
<td>7.0 m</td>
<td>0.6 ft</td>
</tr>
<tr>
<td>Pool 2</td>
<td>7.2 ft</td>
<td>12.9 m</td>
<td>0.6 ft</td>
</tr>
<tr>
<td>Pool 3</td>
<td>3.0 ft</td>
<td>7.1 m</td>
<td>0.2 ft</td>
</tr>
<tr>
<td>Pool 4</td>
<td>4.0 ft</td>
<td>9.1 m</td>
<td>0.5 ft</td>
</tr>
<tr>
<td>Pool 5</td>
<td>5.0 ft</td>
<td>10.2 m</td>
<td>0.7 ft</td>
</tr>
<tr>
<td>Pool 6</td>
<td>6.0 ft</td>
<td>11.3 m</td>
<td>0.8 ft</td>
</tr>
<tr>
<td>Pool 7</td>
<td>7.0 ft</td>
<td>12.4 m</td>
<td>0.9 ft</td>
</tr>
<tr>
<td>Pool 8</td>
<td>8.0 ft</td>
<td>13.5 m</td>
<td>1.0 ft</td>
</tr>
<tr>
<td>Pool 9</td>
<td>9.0 ft</td>
<td>14.6 m</td>
<td>1.1 ft</td>
</tr>
<tr>
<td>Pool 10</td>
<td>10.0 ft</td>
<td>15.7 m</td>
<td>1.2 ft</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 meters</td>
<td></td>
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<tr>
<td>60 meters</td>
<td></td>
</tr>
<tr>
<td>90 meters</td>
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<td>120 meters</td>
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<td>150 meters</td>
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<td>180 meters</td>
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<td>210 meters</td>
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<tr>
<td>240 meters</td>
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<tr>
<td>270 meters</td>
<td></td>
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<tr>
<td>300 meters</td>
<td></td>
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<tr>
<td>Average</td>
<td></td>
</tr>
</tbody>
</table>
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek  Site: #1
Date: 5/29/18  Time: 1143-1155

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.

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Average Width of 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at narrowest point of the stream within 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at widest point of the stream within 300 meter reach</td>
<td></td>
</tr>
</tbody>
</table>

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

COMMENTS:
children wading is possible

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

<table>
<thead>
<tr>
<th># Measurements</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<td>10</td>
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</tbody>
</table>
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Site: #1
Date: 5/29/16
Time: 1143-1155

F. Additional RUAA Information

1. Check the following activities observed over the site reach.
   - Drinking or water in mouth
   - Playing on shoreline
   - Bathing
   - Picnicking
   - Walking
   - Motorcycle/ATV
   - Jogging/running
   - Hunting/Trapping
   - Bicycling
   - Wildlife watching
   - Standing
   - Sitting
   - Lying down/sleeping
   - 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: Culverts under bridge

3. Check any channel obstructions that apply (Attach photos).
   - Culverts
   - Fences
   - Log jams
   - Rip rap
   - Water control structure
   - Barbed wire
   - Dams
   - Thick vegetation
   - Low bridges
   - None
   - Utility pipe
   - Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).
   - Campgrounds
   - Stairs/walkway
   - Roads (paved/unpaved)
   - Other:
   - Playgrounds
   - Boating access (ramps)
   - Populated area
   - None of the Above
   - Rural area
   - Beach
   - Docks or rafts
   - Residential
   - Commercial boat activity
   - Commercial outfitter
   - Nearby school
   - National forests
   - Bridge crossing
   - Power Line Corridor
   - Urban/suburban location
   - Trails/paths (hiking/biking)
   - Parks (national/city/county/state)
   - Golf Course
   - Paved parking lot
   - No of the Above
   - Sports Field
   - Unimproved parking lot
   - Public Property
   Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).
   - Private Property
   - No trespass sign
   - Barge/ship traffic
   - Wildlife
   - Industrial
   - Steep slopes
   - None of the Above
   - No public access
   - Other:
   - No roads
   Comments:

6. Check any indications of human use (Attach photos).
   - Roads
   - RV/ATV Tracks
   - NPDES Discharge
   - Organized event
   - Rope swings
   - Camping Sites
   - No Human Presence
   - Dock/platform
   - Fire pit/ring
   - Children’s toys
   - Foot paths/prints
   - Fishing Tackle
   - Remnant’s of Kid’s play
   - Other:
   Comments:
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).
# Field Data Sheet - Basic RUAA Survey
**Stream Flow (Discharge) Measurement**

**Stream:** shepard creek  
**Site:** 1  
**Date:** 5/29/10  
**Description:** FM 1452 @ Shepard Creek  
**Time Begin:**  
**Time End:**  
**Meter Type:** sonTek flowtracker  
**Observers:**  
**Observations:**

<table>
<thead>
<tr>
<th>Section Midpoint (ft/m)</th>
<th>Section Depth (ft/m, cm) (D)</th>
<th>Observational Depth** (ft/m)</th>
<th>Velocity (V)</th>
<th>Flow (Q) (m³/s) (ft³/s)</th>
<th>Q = (W)(D)(V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

*Note: Observational Depth and Flow calculations are not provided in the table.*

**Observations:**
- No flowing water

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

Data Collectors & Contact Information: C. Gauthier, P. Thompson, L. Benavides, H. Shepard
Date & Time: 5-24-2010 1205-1240 County Name: Madison
Stream Name: Shepard Creek
Segment No. or nearest downstream Segment No.: 1209 J
Description of Site: CA399 e Shepard Creek #2

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.

Air Temp: 29 °C Water Temp: 25 °C

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.

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)
   - R L Forest
   - Shrub dominated corridor
   - Herbaceous marsh
   - Mowed/maintained corridor
   - Urban
   - Pasture
   - Row crops
   - Rip rap
   - Concrete
   - 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):
   - Barbed wire up to creek (used to cross creek) downstream of bridge.

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

FDS Page 1 of 8
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

2. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ Greater than 50

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

4. 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 water, an abundance of trash in the channel, dead dog

   Bridge crossing over creek

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

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

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: __________

   FDS Page 2 of 8
Stream Name: Shepard Creek  
Date: 5/1/2010  
Site: #2  
Time: 1205-1240

b. Check the number of individuals observed at the site.  
X 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).  
Low water, abundance of trash in channel, all in the 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  □ Unknown  
Please describe how often the activities occur? X 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 as above

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

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.  
Channel extremely contaminated with trash and debris, cattails...

FDS Page 3 of 8
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Site: #2
Date: 5/29/16

E. Stream Channel and Substantial Pool:
Please check the following which best describes the river or stream: □ Wadeable  X 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.

<table>
<thead>
<tr>
<th>Pool 1</th>
<th>Length (meters)</th>
<th>Width (meters)</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool 2</td>
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<td>Pool 3</td>
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<td>Pool 9</td>
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<tr>
<td>Pool 10</td>
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</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 meters</td>
<td></td>
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<tr>
<td>60 meters</td>
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<td>90 meters</td>
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<td>240 meters</td>
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<tr>
<td>270 meters</td>
<td></td>
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<tr>
<td>300 meters</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
</tr>
</tbody>
</table>
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Date: 5/29/16
Site: #2
Time: 1205 - 1240

---
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.

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Average Width of 300 meter reach</td>
<td>N/A</td>
</tr>
<tr>
<td>Width at narrowest point of the stream within 300 meter reach</td>
<td>1m</td>
</tr>
<tr>
<td>Width at widest point of the stream within 300 meter reach</td>
<td></td>
</tr>
</tbody>
</table>

---
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 ☒ upstream of bridge
Photos #s (150 meters) Upstream ☒ Downstream ☒ Left Bank ☒ Right Bank ☐ downstream of bridge
Photos #s (300 meters) Upstream ☐ Downstream ☐ Left Bank ☐ Right Bank ☐

# Measurements | Width (meters)
---             | ---
1              | 1m downstream of bridge
2              |
3              |
4              |
5              |
6              |
7              |
8              |
9              |
10             |

---
FDS Page 5 of 8
F. Additional RUAA Information

1. Check the following activities observed over the site reach.
   - [ ] Drinking or water in mouth
   - [ ] Playing on shoreline
   - [ ] Bathing
   - [ ] Picnicking
   - [ ] Walking
   - [ ] Motorcycle/ATV
   - [ ] Jogging/running
   - [ ] Hunting/Trapping
   - [ ] Bicycling
   - [ ] Wildlife watching
   - [X] Standing
   - [ ] Sitting
   - [ ] Lying down/sleeping

   None

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

   Comments:

3. Check any channel obstructions that apply (Attach photos).
   - [ ] Culverts
   - [X] Fences
   - [ ] Log jams
   - [ ] Rip rap
   - [ ] Water control structure
   - [ ] Barbed wire
   - [ ] Dams
   - [ ] Thick vegetation
   - [ ] Low bridges
   - [X] None

   Brief and small trash

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
   - Commercial boating
   - Bridge crossing
   - Populated area
   - Dock or rafts
   - Nearby school
   - Commercial outfitter
   - Trails/paths (hiking/biking)
   - Paved parking lot
   - Unimproved parking lot
   - Parks (national/city/county/state)
   - Road (paved/unpaved)
   - Other:
   - None of the Above

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

   Private property
   - Fence
   - No trespass sign
   - Wildlife
   - Steep slopes
   - No public access
   - No roads

   Other:

   Comments:

6. Check any indications of human use (Attach photos).
   - Roads
   - RV/ATV Tracks
   - Gates on corridor
   - NPDES Discharge
   - Organized event
   - No Human Presence
   - Rope swings
   - Camping Sites
   - Children's toys
   - Dock/platform
   - Fire pit/ting
   - Remnant's of Kid's play
   - Foot paths/prints
   - Fishing Tackle

   Other:

   Comments:

   FDS Page 6 of 8
Field Data Sheets – Basic RUAA Survey

Stream Name: Shegdon Creek  Site: #2  Time: 13:05-12:40

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 - dead animal smell
   - 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:
      - Microwaves, a refrigerator, beverage cans, carpet, plastic bottles, bricks.

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 Sheet - Basic RUAA Survey
Stream Flow (Discharge) Measurement

Stream: Shepard Creek
Site: #2
Date: 5/29/10

Description: CA 349 E Shepard Creek

Time Begin: Time End: Meter Type: Sontek flowmeter

Observers: Stream Width*: Section Width (W):

Observations:

<table>
<thead>
<tr>
<th>Section Midpoint (ft) (m)</th>
<th>Section Depth (ft) (m) (cm) (D)</th>
<th>Observational Depth** (ft)(m)</th>
<th>Velocity (V)</th>
<th>Flow (Q) (m³/s) (ft³/s)</th>
<th>Q = (W)(D)(V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>At Point (ft/s)(m/s)</td>
<td>Average (ft/s)(m/s)</td>
<td></td>
</tr>
</tbody>
</table>

Observations:

No Flow Taken
Field Data Sheets – Basic RUAA Survey
(should be completed for each site)

Data Collectors & Contact Information:

Date & Time: 5/28/2010 1:20p-1:15p
County Name: Madison
Stream Name: Shepard Creek
Segment No. or nearest downstream Segment No.: 1209 J

Description of Site:

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 RUAA.

A. Stream Characteristics:
1. Check the following channel flow status that applies:
   - dry □ no flow X 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 refug 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.
   - X 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

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 34 °C
Secchi tube N/A
Water Temp 26 °C

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

L R
- Forest
- Shrub dominated corridor
- Herbaceous marsh
- Mowed/maintained corridor

Urban
Pasture
Row crops
Denuded/Eroded bank

Rip rap
Concrete

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

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

Steep slope, lot of debris in channel, barbed wire upstream of bridge

8. Dominant Primary Substrate

X Cobble X Sand □ Silt □ Mud/Clay □ Gravel □ Bedrock □ Rip rap □ Concrete

FDS Page 1 of 8

QC PL AH
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 [X] 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: __________________________
   - No primary contact activities that commonly occur were observed
   - Frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site [X] 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).

   [Handwritten: Large trash in channel, water snake in water, dead animals in channel.]
   [Handwritten: Step slope.]

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

   [Handwritten: Bridge crossing over 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? [N/A]

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 [X] 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: __________________________
b. Check the number of individuals observed at the site.
XNone  □ 1-10  □ 11-20  □ 20-50  □ greater than 50

□ 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 as primary recreation

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  Xunknown
Please describe how often the activities occur?  XUnknown  □ 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 as above

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

same as above

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: Shepard Creek
Site: #3
Date: 5/29/10
Time: 1250-1315

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 #1 (30 meters) Upstream □ Downstream □ Left Bank □ Right Bank □
Photos #1 (150 meters) Upstream □ Downstream □ Left Bank □ Right Bank □
Photos #1 (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. □ N/A

<table>
<thead>
<tr>
<th>Pool 1</th>
<th>Length (meters)</th>
<th>Width (meters)</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool 2</td>
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<td>Pool 10</td>
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</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
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<td>240 meters</td>
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<tr>
<td>270 meters</td>
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<tr>
<td>300 meters</td>
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<tr>
<td>Average</td>
<td></td>
</tr>
</tbody>
</table>

FDS Page 4 of 8
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek  Site: #3
Date: 5/3/11  Time: 12:50-13:15

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

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Average Width of 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at narrowest point of the stream within 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at the widest point of the stream within 300 meter reach</td>
<td></td>
</tr>
</tbody>
</table>

(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  See Wadeable Section
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 ____

<table>
<thead>
<tr>
<th># Measurements</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Can see 25m upstream, 42 downstream.
F. Additional RUAA Information

1. Check the following activities observed over the site reach.
   □ Drinking or water in mouth   □ Playing on shoreline
   □ Bathing   □ Picnicking
   □ Walking   □ Motorcycle/ATV
   □ Jogging/running   □ Hunting/Trapping
   □ Bicycling   □ Wildlife watching
   □ Standing   □ None
   □ Sitting   □ Other: __________________________
   □ Lying down/sleeping

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

3. Check any channel obstructions that apply (Attach photos).
   □ Culverts   □ Fences   □ Log jams   □ Rip rap   □ Water control structure
   □ Barbed wire   □ Dams   □ Thick vegetation   □ Low bridges   □ None
   □ Utility pipe   □ Other (specify): __________________________

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).
   □ Campgrounds   □ Stairs/walkway   □ Roads (paved/unpaved)
   □ Playgrounds   □ Boating access (ramps)   □ Other:
   □ Rural area   □ Beach   □ Populated area
   □ Residential   □ Bridge crossing   □ Docks or rafts
   □ National forests   □ Commercial boating   □ Commercial outfitter
   □ Urban/suburban location   □ Trails/paths (hiking/biking)   □ Nearby school
   □ Golf Course   □ Paved parking lot   □ Power Line Corridor
   □ Sports Field   □ Unimproved parking lot   □ Parks (national/city/county/state)
   □ Comments: __________________________

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).
   □ Private Property   □ Fence   □ Other:
   □ No trespass sign   □ Barge/ship traffic   □ None of the Above
   □ Wildlife   □ Industrial   □ Other: __________________________
   □ Steep slopes   □ None of the Above
   □ No public access   □ Other: __________________________
   □ No roads
   Comments: __________________________

6. Check any indications of human use (Attach photos).
   □ Roads   □ RV/ATV Tracks   □ NPDES Discharge
   □ Rope swings   □ Camping Sites   □ Gates on corridor
   □ Dock/platform   □ Fire pit/ring   □ Children’s toys
   □ Foot paths/prynts   □ Fishing Tackle   □ Remnant’s of Kid’s play
   □ Other: __________________________
   Comments: __________________________

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Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Date: 5/30/10
Site: #3
Time: 12:50 - 13:15

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 ☑ dirt ☑ other
dead animal odor
   - Water Surface: ☑ clear ☑ scum ☐ foam ☑ debris ☑ oil ☑ leaves

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: one water snake in water

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: most downstream from bridge – open microwaves, tin, tires, carpet, plastic bags, etc. beverage containers

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).


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

Stream: Shepard Creek
Site: #3
Date: 5-29-10

Description: Bundle Rd @ Shepard Creek

Time Begin: ___________ Time End: ___________

Meter Type: Sontek FlowTracker

Observers: ___________

Stream Width*: ___________ Section Width (W): ___________

Observations: ___________

Flow not taken due to inaccessibility.

<table>
<thead>
<tr>
<th>Section Midpoint (ft) (m)</th>
<th>Section Depth (ft) (m) (cm) (D)</th>
<th>Observational Depth** (ft)(m)</th>
<th>Velocity (V)</th>
<th>Flow (Q)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(m³/s) (ft³/s)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At Point (ft/s)(m/s)</td>
<td>Average (ft/s)(m/s)</td>
</tr>
</tbody>
</table>

Q = (W)(D)(V)
Field Data Sheets – Basic RUAA Survey  
(should be completed for each site)

| Data Collectors & Contact Information: M. Shepard, C. Guenthier, R. Thompson, L. Renaud |  |
| Date & Time: 5/29/11 11:15 - 11:32 | County Name: Madison |
| Stream Name: Shepard Creek |  |
| Segment No. or nearest downstream Segment No.: 12095 |  |
| Description of Site: #4 US 190 e Shepard Creek |  |

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 RUAA.

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. 100 cfs was taken.

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: 33 °C
   - Water Temp: 25 °C
   - Secchi tube could not reach water

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)
   - L Forest
   - Shrub dominated corridor
   - Herbaceous marsh
   - Mowed/maintained corridor
   - Urban
   - Pasture
   - Row crops
   - Other (specify): concrete
   - Rip rap
   - Denuded/Eroded bank

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

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

8. Dominant Primary Substrate
   - ☑ Gravel
   - □ Bedrock
   - □ Rip rap
   - □ Concrete

FDS Page 1 of 8
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek
Site: #4
Date: 5/29/18
Time: 11:15-11:32

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

2. 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 □ Tubing
   □ Surfing □ Swimming □ Whitewater-kayaking, canoeing, rafting
   □ Water skiing □ Other:
   □ Diving □ frequent public swimming-created by publicly owned land or commercial operations

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

4. 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)

5. 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).

Watershallow water, somewhat stagnant, steep

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

Our park along road at 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?

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

2. 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

3. No secondary contact recreation activities were observed

4. Other secondary contact activities:

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Field Data Sheets – Basic RUAA Survey

Stream Name: **Shepard Creek**
Date: **5/27/10**
Site: **#4**
Time: **11:15-11:30**

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

\[X\] 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)  
\[X\] 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).

\[\] too little or water, not wide enough of a

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

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

\[\] Same as before

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

\[\] Same as before

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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.
Stream Name: Shepard Creek  
Site: #4  
Date: 6/21/2010  
Time: 11:15 - 11:32

E. Stream Channel and Substantial Pool:
Please check the following which best describes the river or stream:
\[\checkmark\text{Wadeable} \quad \square \text{Non-wadeable}\]

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 \[\checkmark\] Downstream \[\checkmark\] Left Bank \[\checkmark\] Right Bank \[\checkmark\]
Photos #s (150 meters): Upstream \[\square\] Downstream \[\square\] Left Bank \[\square\] Right Bank \[\square\]
Photos #s (300 meters): Upstream \[\square\] Downstream \[\square\] Left Bank \[\square\] Right Bank \[\square\]

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.

<table>
<thead>
<tr>
<th>Pool</th>
<th>Length (meters)</th>
<th>Width (meters)</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pool 1</td>
<td></td>
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<td></td>
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<tr>
<td>Pool 2</td>
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<td>Pool 3</td>
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<td>Pool 9</td>
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<td></td>
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<tr>
<td>Pool 10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Distance</th>
<th>Depth (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 meters</td>
<td>1.5m</td>
</tr>
<tr>
<td>60 meters</td>
<td>0.5m</td>
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<tr>
<td>90 meters</td>
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<td>240 meters</td>
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<td>270 meters</td>
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<tr>
<td>300 meters</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
</tr>
</tbody>
</table>

Can see 28m upstream & 36m downstream of bridge.
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek  
Date: 6.29.2010  
Site: #4  
Time: 11:57 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.

<table>
<thead>
<tr>
<th>Measurement Type</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Average Width of 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at narrowest point of the stream within 300 meter reach</td>
<td></td>
</tr>
<tr>
<td>Width at widest point of the stream within 300 meter reach</td>
<td></td>
</tr>
</tbody>
</table>

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 □

<table>
<thead>
<tr>
<th># Measurements</th>
<th>Width (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

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F. Additional RUAA Information

1. Check the following activities observed over the site reach.
   - Drinking or water in mouth
   - Playing on shoreline
   - Bathing
   - Picnicking
   - Walking
   - Motorcycle/ATV
   - Jogging/running
   - Hunting/Trapping
   - Bicycling
   - Wildlife watching
   - Standing
   - Sitting
   - Lying down/sleeping
   - None

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: large concrete culvert

3. Check any channel obstructions that apply (Attach photos).
   - Culverts
   - Fences
   - Log jams
   - Rip rap
   - Water control structure
   - Barbed wire
   - Dams
   - Thick vegetation
   - Low bridges
   - None
   - Utility pipe
   - Other (specify):

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).
   - Campgrounds
   - Playgrounds
   - Rural area
   - Residential
   - National forests
   - Urban/suburban location
   - Golf Course
   - Sports Field
   - Stairs/walkway
   - Boating access (ramps)
   - 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

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
   - Other (specify):

6. Check any indications of human use (Attach photos).
   - Roads
   - RV/ATV Tracks
   - Camping Sites
   - Fire pit/ring
   - Fishing Tackle
   - Other:

Comments:
Field Data Sheets – Basic RUAA Survey

Stream Name: Shepard Creek  Site: #9
Date: 6/29/10  Time: 1115-1132

7. Check all water characteristics that apply (Attach photos).
   Aquatic Vegetation:  X absent  □ rare  □ common  □ abundant
   Algae Cover:  □ absent  □ rare  □ common  □ abundant
   Odor:  □ none  X 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  X None  □ slight presence  □ moderate presence  □ large presence
   Water Dependent Birds  X None  □ slight presence  □ moderate presence  □ large presence
   Alligators  X None  □ slight presence  □ moderate presence  □ large presence
   Comments: 

9. Mammals Observed within 300 meter reach
   Wild  X None  □ slight presence  □ moderate presence  □ large presence
   Domesticated Pets  X None  □ slight presence  □ moderate presence  □ large presence
   Livestock  X None  □ slight presence  □ moderate presence  □ large presence
   Feral Hogs  X 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  X Rare  □ Common  □ Abundant
    Small garbage in the channel  □ None  X Rare  □ Common  □ Abundant
    Bank Garbage  □ None  X Rare  □ Common  □ Abundant
    Briefly describe the kinds of garbage observed:  tire  wheel

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 Sheet - Basic RUAA Survey
Stream Flow (Discharge) Measurement

Stream: Shepard Creek
Site: #4
Date: 5/29/10

Description: US190 e Shepard Creek

Time Begin: 11:15 Time End: Meter Type: SonTek FlowTracker

Observers: Stream Width*: Section Width (W):

Observations:

<table>
<thead>
<tr>
<th>Section Midpoint (ft) (m)</th>
<th>Section Depth (ft) (m) (cm)</th>
<th>Observational Depth** (ft)(m)</th>
<th>Velocity (V)</th>
<th>Flow (Q) (m³/s) (ft³/s) Q = (W)(D)(V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>At Point (ft/s)(m/s)</td>
<td>Average (ft/s)(m/s)</td>
</tr>
</tbody>
</table>

Note: Observations indicate no flow and could not access water.