

**Recreational Use-Attainability Analyses (UAAs)**  
**Procedures for a Comprehensive Recreational UAA and a Basic UAA Survey**  
**TCEQ Staff Draft December 12, 2008**

## **Purpose**

The purpose of this document is to provide the procedures for conducting a Comprehensive Recreational Use-Attainability Analysis (UAA) and a Basic UAA Survey, which is part of a Comprehensive Recreational UAA, on unclassified and classified rivers and streams. UAAs are assessments of the physical, chemical, biological, and economic factors affecting attainment of a water body use (40 Code of Federal Regulations § 131.10(g)). UAAs are used to identify and assign attainable uses and criteria to individual water bodies. Applicable uses and associated criteria are defined in the Texas Surface Water Quality Standards (TSWQS). Presumed recreational uses of unclassified water bodies are described in 307.4(j) and designated uses for classified water bodies are listed in Appendix A of the TSWQS. Data collection, compilation, and analysis for a UAA may be conducted by the Texas Commission on Environmental Quality (TCEQ), river authorities, local government, or other entities.

In addition to the recreational uses in the TSWQS, these procedures also consider potential recreational uses, such as primary contact, secondary contact 1 and 2, and noncontact recreation, which are in the draft rule language for the TSWQS revision.

## **Applicability**

Prior to the beginning of a Comprehensive Recreational UAA or a Basic UAA Survey, any person or entity should coordinate with Texas Commission on Environmental Quality (TCEQ) Water Quality Standards staff to determine if a UAA would be appropriate on the water body in question. There may be some instances where a UAA would not be appropriate for certain water bodies (e.g. primary contact recreation activities are known to occur or if a water body is considered a coastal water under the Beaches Environmental Assessment and Coastal Health Act of 2000 (the Beach Act)). The investigator should also consult with Water Quality Standards staff to determine the appropriate number of stations and sampling events.

The procedures for a Comprehensive Recreational UAA and a Basic UAA Survey contained in this document may be used for unclassified and classified rivers and streams. A Basic UAA Survey is conducted to collect information on a water body, such as the presence or absence of water recreation activities, stream flow type, and stream depth, establish/verify a presumed use, or be used in a Comprehensive Recreational UAA. These surveys can be conducted on a relatively small unclassified water body that is evaluated during conditions amenable for contact recreation and can often be accomplished on a single sample date. A Comprehensive Recreational UAA, which includes a Basic UAA Survey, is required for classified water bodies or where presumed uses for unclassified water bodies may be inappropriate and it may require two or more separate trips. It is an expanded effort including, but not limited to, multiple field observations on different dates and a historical data review.

In cases where a Basic UAA Survey indicates that the existing and/or attainable recreational use for a particular water body might be lower than the presumed or designated recreational use, a Comprehensive Recreational UAA is required to fully evaluate the presumed or designated use. In order to assign a recreational use that is determined by a Comprehensive Recreational UAA to be less stringent than a designated

or presumed use, the applicable use must be explicitly assigned to an individual water body in the TSWQS and approved by the Environmental Protection Agency (EPA).

### **Basic UAA Survey**

Basic UAA Surveys are conducted to collect information on a water body and includes documenting the presence or absence of water recreation activities, stream flow type, and stream depth. A Basic UAA Survey can often be accomplished on a single sampling date. However, the search for evidence on recreation use attainability in waters must be thorough and in some instances may need to involve a Comprehensive Recreational UAA, which is an expanded effort including, but not limited to, multiple field observations on different dates.

### **Sampling Conditions:**

A Basic UAA Survey, which is part of a Comprehensive Recreational UAA, should be conducted during a normal (average) warm season (air temperature greater than or equal to 70°F) during baseflow conditions. Baseflow conditions are defined as sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather. Comprehensive Recreational UAAs, including Basic UAA Surveys, aimed at determining recreational use should be performed during the period when people would most likely be using the water body for contact recreational purposes (example: Spring Break and summer). In Texas, this is typically March to October. Comprehensive Recreational UAAs, including Basic UAA Surveys, should be conducted during optimal sampling conditions that are representative of the normal flow conditions of the stream and are not storm influenced. It is preferable for a Comprehensive Recreational UAA, including a Basic UAA Survey, to also be conducted on weekends and holidays when recreational activities are most likely to occur.

### **Site Reconnaissance:**

A site reconnaissance should be conducted prior to beginning a Comprehensive Recreational UAA and Basic UAA Survey to select stations, etc.

The following information should be compiled using Geographic Information System (GIS) based tools prior to and during site reconnaissance:

- a) Locate areas in which the water body is accessible to the public and have the highest potential for recreational use (road crossings, public lands/parks located near the water body, areas of population).
- b) Locate wastewater treatment plant outfall locations and potential nonpoint sources.
- c) Watershed characterization, including surrounding land use.
- d) Hydrologic characteristics, such as stream type, stream flow, hydrologic alterations, etc.
- e) Locate proposed sites for data collection.
- f) Other relevant information.

### **Site Selection:**

Stations should be located in areas where the water body is accessible to the public and has the highest potential for recreational use. The water body in question should try to contain a minimum of three sites. These sites should be located at road crossings or other publicly accessible locations. They can be located upstream or downstream of a bridge crossing or access point. Ensure that the sites are as well spaced as possible. In general, choose three (3) sites per every five (5) miles of stream. If fewer than three (3) sites are

accessible or if there are large gaps along a longer stream, state the reason(s) why and fill in the gaps with interviews, by gaining access through owner permission and/or some other method of assessing the stream (topographic maps, aerial photos). If it is necessary to evaluate water bodies on private land, participants must secure the landowner's permission to access the sites. Select sites that are representative of the water body and that are most likely to be used for water recreation activities that involve a significant risk of ingestion (primary contact).

**Field Survey:**

The Recreational UAA field data sheets must be completed for each site. Each site should have a Station identification number which will need to be obtained prior to data collection from the TCEQ's Data Management and Analysis Group. Applicable flow procedures contained in TCEQ's Surface Water Quality Monitoring Procedures Volume 1, RG-415, October 2008, should be followed.

**Map:**

At a minimum, a GIS map should include: a) stream name; b) the upstream and downstream limits of the stream reach assessed; c) all sites and their corresponding Station IDs; d) wastewater treatment outfall locations; e) cities/towns or other areas of population; f) major and minor roads and road crossings; g) public areas located near the water body (e.g. national, state, county, and local parks; conservation or wildlife management areas, campgrounds, national or state forests, public water recreation commercial operations); h) North Arrow; i) scale; j) access points in which the water body is accessible to the public and/or which areas have the highest potential for recreational use; k) on-channel impoundments; and l) locations referenced in interviews (if conducted).

**Weather Conditions:**

Provide a description of the current weather conditions and daily conditions for the past month. Attach rainfall data for approximately 30 days prior to fieldwork, and the source of the rainfall data to the Basic UAA Survey Field Data Sheet.

**Photographic Record:**

A photographic record must be made of each site during the site survey and attach to the field data sheet. Photographs should include an upstream view, left and right bank views, downstream view and any evidence of observed uses or indications of human use. Be sure to take photographs that clearly depict the entire channel and each transect measured. Photos can show evidence of recreational use, rope swings, and actual recreation. Photos may also show a lack of use, such as dry creek beds. Photos need an obvious scale. Photographs must be catalogued in a manner that indicates the site location, date, view orientation and what is being shown (for example, provide a map showing where photos were taken and what direction photo was taken).

**Submitting Basic UAA Surveys to TCEQ:**

Results of a Basic UAA Survey should be summarized and submitted to the TCEQ for review. The summary packet should include: a) short summary of Basic UAA Survey results; b) field data sheets; c) photographs; d) maps; e) rainfall data; and f) interview forms (if interviews were conducted). Refer to field data sheets for additional information on photographs, rainfall data, maps, and interview forms. If the Basic UAA Survey results in a Comprehensive Recreational UAA being conducted submit the Basic UAA Survey results as part of the Comprehensive Recreational UAA report.



## **Comprehensive Recreational UAAs**

A Comprehensive Recreational UAA is required on classified water bodies or where presumed uses for unclassified water bodies may be inappropriate. Two or more separate trips are usually appropriate for a Comprehensive Recreational UAA. A Basic Survey is part of a Comprehensive Recreational UAA.

In addition to the requirements previously discussed in the Basic UAA Survey section, such as site selection, etc., a historical information review and interviews should be conducted for a Comprehensive Recreational UAA.

### **Historical Information:**

A thorough historical information review of the recreational uses of the water body on or after November 28, 1975 should be conducted. Examine historical resources such as photographic evidence, museum collections, published reports, historical society records, and long term landowners. This review will provide a characterization of the historical uses of the given area.

### **Interviews:**

Interviews from users present during the field survey, streamside landowners and local residents should be typically conducted in order to obtain information on existing and historical uses and stream type (e.g. ephemeral, intermittent, intermittent with perennial pools, perennial) of the water body in question. In cases where telephone interviews are conducted, the interviewee should have an adequate map during the interview for reference purposes. The Comprehensive Recreational UAA Interview Form should be used when conducting interviews. If there are no individuals present to interview, please document the reasons why interviews were not conducted on the interview form.

### **Report Content for Comprehensive Recreational UAAs:**

A Recreational UAA report is required for Comprehensive Recreational UAAs and should be submitted to the TCEQ for review. The report should contain the following information:

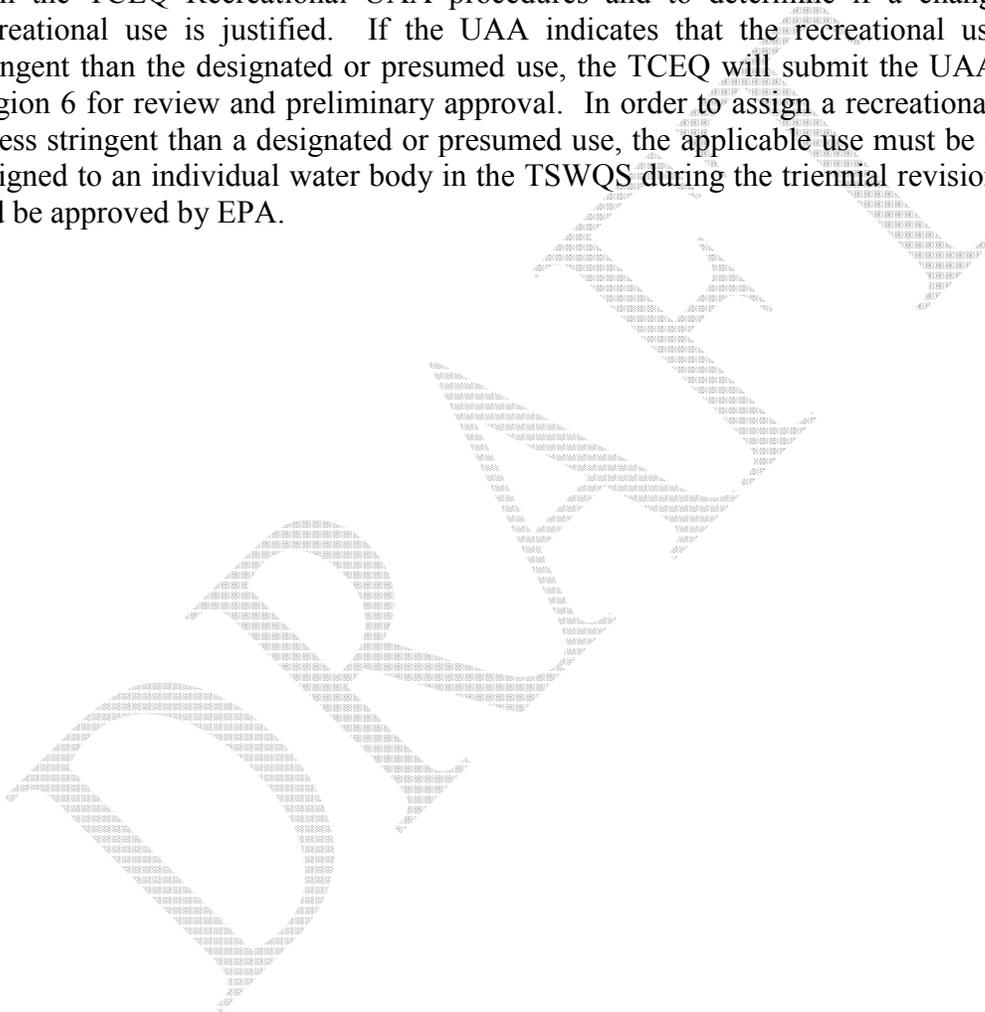
- Introduction
  - Problem statement
  - Objectives
- Study Area
  - Description of water body and designated uses and criteria
  - Environmental features and population characteristics
  - Watershed Characterization
  - Permitted discharges (Municipal, Industrial, Stormwater)
  - Potential nonpoint sources
  - Summary of historical information
  - Site reconnaissance summary
- Methodologies
  - Station descriptions
  - Sampling methods
  - Survey descriptions
  - Basic UAA Survey
- Results and Discussions
- Conclusions
- References
- Appendices
  - Field data sheets
  - Photographs
  - Maps
  - Rainfall Data
  - Interview Forms, if conducted

## **Comprehensive Recreational UAA and Basic Survey Submittal Procedures**

Basic UAA Survey documentation and Comprehensive Recreational UAA reports should be submitted to the TCEQ Water Quality Standards Group for review. A hard copy of these documents should be sent to:

Water Quality Standards Group  
Texas Commission on Environmental Quality  
P.O. Box 13087 MC-234  
Austin, TX 78711-3087

Water Quality Standards staff will review the documents in order to ensure conformance with the TCEQ Recreational UAA procedures and to determine if a change in the recreational use is justified. If the UAA indicates that the recreational use is less stringent than the designated or presumed use, the TCEQ will submit the UAA to EPA Region 6 for review and preliminary approval. In order to assign a recreational use that is less stringent than a designated or presumed use, the applicable use must be explicitly assigned to an individual water body in the TSWQS during the triennial revision process and be approved by EPA.



**Field Data Sheets**  
**Basic UAA Survey**  
(must be completed for each site)

Data Collectors & Contact Information:
Date:
Time:

**I. Stream Information (For water body being surveyed)**

Stream Name:
Segment Number:
Station ID (requires submittal of SLOC form):
Description of Site:
County Name:

**A. Stream Physical Characteristics (Hydrological 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:

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 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

To determine stream flow, use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ's Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a water body, include that information as an attachment. If stream discharge flow measurement will be taken, the measurement should be taken at the most downstream site only.

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4. Water Quality Data

*Water quality data should be taken at only one transect at each site. Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.*

Field Parameters

Air Temp \_\_\_\_\_ °C

Water Temp \_\_\_\_\_ °C

**B. Primary Contact Water Recreation Evaluation:**

1. Do water recreation activities that involve a significant risk of ingestion occur at this station?

- Yes    No primary contact recreation activities were observed

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

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

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

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

- 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

d. Is an area with primary contact recreation activities or a bathing beach located 5 miles upstream or downstream of the station?  Yes  No

2. Answer the following questions if no primary contact recreation activities were observed.

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).

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

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*If the answer to #1 above was yes, primary contact recreation is considered the existing use. Stop here and do not complete the remainder of the field data sheet and do not conduct a Recreational UAA for the water body. If the answer to #1 above was no and #1e above was yes, please contact the Water Quality Standards Group before proceeding to Part C. If the answer to #1 and #1e above was no, proceed to C. Secondary Contact Water Recreation Evaluation.*

### C. Secondary Contact Water Recreation 1 Evaluation:

1. Does water recreation occur at the station, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)?  Yes  No primary contact or 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 station (Attach photos of activities or lack of activities).

- Fishing       Rafting  
 Boating-commercial, recreational       Kayaking  
 Wading-Adults       Other secondary contact activities: \_\_\_\_\_  
 Canoeing       No secondary contact recreation activities were observed

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

- 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)

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

## 2. Average Depth at Thalweg and Substantial Pool Depths

For secondary contact recreation 1 to apply to unclassified intermittent and perennial freshwaters, the average depth at the thalweg must be less than 0.5 meters during base flow conditions, and there must not be substantial pools with a depth of 1 meter or greater.

### Non-wadeable Streams

Proceed to question #3 if the water body is determined to be non-wadeable at the time of the survey during base flow conditions, the average depth at the thalweg is greater than 0.5 meters, and any potential substantial pools have a depth of 1 meter or greater.

### Measuring Substantial Pools

Note the following information regarding pool measurements.

- a. Number of distinct pools in the 300 meter reach surveyed: \_\_\_\_\_
- b. Approximate length and width of each pool in meters: \_\_\_\_\_

For pool transects, if deepest part of the transect is clearly greater than 1 meter, just note > 1 meter.

- c. For pools greater than 15 meters long, establish 3 transects across each pool and record the deepest depth in meters: \_\_\_\_\_
- d. For pools less than 15 meters long, establish 1 transect across each pool and record the deepest depth: \_\_\_\_\_

### Reach Length Determination for Wadeable Streams

#### **Determining Average Depth at the Thalweg**

To determine average depth at the thalweg, a 300 meter reach at each station must be evaluated. A total of 10 transects should typically be established in the 300 meter stream reach being evaluated at each station. Transects should start at the lower end of the reach and end at the upper end of the reach. Place transect lines perpendicular to the stream channel beginning at the lower end of the reach. For purposes of transect measurements, left and right bank orientation is determined by the investigator facing downstream. To determine the thalweg at each transect, multiple depth measurements should be taken starting at waters edge and end at the waters edge to determine the deepest depth (thalweg) at each transect. Depth measurements should be taken during base flow conditions. For purposes of this section, base flow conditions are defined as sustained or typical dry warm weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather.

### Transect Information for Wadeable Streams

Record the following information:

Total Length of Reach at a Station to be Evaluated: 300 meters

Distance between Transects: 33 meters

Total Number of Transects: 10

#### **Transect 1**

- a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

- b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

- c. Ease of Bank Access to the water body

Left Bank	<input type="checkbox"/> Easy	<input type="checkbox"/> Moderately easy	<input type="checkbox"/> Moderately difficult	<input type="checkbox"/> Difficult
Right Bank	<input type="checkbox"/> Easy	<input type="checkbox"/> Moderately easy	<input type="checkbox"/> Moderately difficult	<input type="checkbox"/> Difficult

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

Please describe access opportunities or explain why the site is not easily accessible:

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d. Primary Substrate

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

e. Thalweg at Transect 1: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at Transect 1?  Yes  No

**Transect 2**

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

- |   |                 |
|---|-----------------|
| _____ Forest                              | _____ Urban     |
| _____ Shrub dominated corridor            | _____ Pasture   |
| _____ Herbaceous marsh                    | _____ Row crops |
| _____ Regularly mowed/maintained corridor | _____ Rip rap   |
| _____ Denuded/Eroded bank                 | _____ Concrete  |

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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d. Primary Substrate

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

e. Thalweg at Transect 2: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

**Transect 3**

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

- |   |                 |
|---|-----------------|
| _____ Forest                              | _____ Urban     |
| _____ Shrub dominated corridor            | _____ Pasture   |
| _____ Herbaceous marsh                    | _____ Row crops |
| _____ Regularly mowed/maintained corridor | _____ Rip rap   |
| _____ Denuded/Eroded bank                 | _____ Concrete  |

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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Stream Name \_\_\_\_\_

Station ID \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

e. Thalweg at Transect 3: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

#### Transect 4

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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

d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

e. Thalweg at Transect 4: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

#### Transect 5

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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

d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

e. Thalweg at Transect 5: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

**Transect 6**

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.  
Photos #s Upstream \_\_\_ Downstream \_\_\_ Left Bank \_\_\_ Right Bank \_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

___ Forest	___ Urban
___ Shrub dominated corridor	___ Pasture
___ Herbaceous marsh	___ Row crops
___ Regularly mowed/maintained corridor	___ Rip rap
___ Denuded/Eroded bank	___ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body  
Left Bank  Easy  Moderately easy  Moderately difficult  Difficult  
Right Bank  Easy  Moderately easy  Moderately difficult  Difficult  
Please describe access opportunities or explain why the site is not easily accessible:  
\_\_\_\_\_  
\_\_\_\_\_

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

e. Thalweg at Transect 6: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

**Transect 7**

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.  
Photos #s Upstream \_\_\_ Downstream \_\_\_ Left Bank \_\_\_ Right Bank \_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

___ Forest	___ Urban
___ Shrub dominated corridor	___ Pasture
___ Herbaceous marsh	___ Row crops
___ Regularly mowed/maintained corridor	___ Rip rap
___ Denuded/Eroded bank	___ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body  
Left Bank  Easy  Moderately easy  Moderately difficult  Difficult  
Right Bank  Easy  Moderately easy  Moderately difficult  Difficult  
Please describe access opportunities or explain why the site is not easily accessible:  
\_\_\_\_\_  
\_\_\_\_\_

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

e. Thalweg at Transect 7: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

**Transect 8**

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.  
Photos #s Upstream\_\_\_\_ Downstream\_\_\_\_ Left Bank \_\_\_\_ Right Bank\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

e. Thalweg at Transect 8: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

### Transect 9

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.  
Photos #s Upstream\_\_\_\_ Downstream\_\_\_\_ Left Bank \_\_\_\_ Right Bank\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

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d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

e. Thalweg at Transect 9: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

### Transect 10

a. Take photos facing upstream, downstream, left bank, and right bank at the transect.

Photos #s Upstream \_\_\_\_\_ Downstream \_\_\_\_\_ Left Bank \_\_\_\_\_ Right Bank \_\_\_\_\_

b. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank))

_____ Forest	_____ Urban
_____ Shrub dominated corridor	_____ Pasture
_____ Herbaceous marsh	_____ Row crops
_____ Regularly mowed/maintained corridor	_____ Rip rap
_____ Denuded/Eroded bank	_____ Concrete

Other (specify): \_\_\_\_\_

c. Ease of Bank Access to the water body

Left Bank  Easy  Moderately easy  Moderately difficult  Difficult

Right Bank  Easy  Moderately easy  Moderately difficult  Difficult

Please describe access opportunities or explain why the site is not easily accessible:

\_\_\_\_\_

d. Primary Substrate

Cobble  Sand  Silt  Mud/Clay  Gravel  Bedrock  Rip rap  Concrete

e. Thalweg at Transect 10: \_\_\_\_\_ meters

f. Is a substantial pool(s) located at the transect?  Yes  No

### Transect Summary

g. During base flow conditions, the average depth at the thalweg is less than 0.5 meters?  Yes  No

h. During base flow conditions, there are not substantial pools with a depth of 1 meter or greater?  Yes  No

*If the answer to (g) and (h) above in Transect Summary are yes, then secondary contact recreation 1 is considered the existing use. If the answer to (g) and/or (h) are no, then additional site-specific information is required to determine if secondary contact recreation 1 use is the existing use; proceed to the following question #3.*

### 3. Check the following activities observed over the station 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 type="checkbox"/> None
<input type="checkbox"/> Sitting	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Lying down/sleeping	

### 4. Physical Characteristics of the Water body Evaluation

a. 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: \_\_\_\_\_

\_\_\_\_\_

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_

b. 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): \_\_\_\_\_

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

- Private Property     Campgrounds     Stairs/walkway     Roads (paved/unpaved)  
 Playgrounds     Boating access (ramps)     No trespass sign     Populated area  
 Wildlife     Rural area     Fence     Beach  
 Residential     Parks (city/county/state)     Steep slopes     Docks or rafts  
 Industrial     National forests     Commercial boating     Commercial outfitter  
 Urban/suburban location     Trails (hiking/biking)     Nearby school     Other: \_\_\_\_\_  
 Golf Course     Paved parking lot     Power Line Corridor     None of the Above  
 Sports Field     Unimproved parking lot     Bridge crossing

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

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

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

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

e. 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: \_\_\_\_\_

5. Wildlife observed within reach and within 5 meters of channel

Fish Observed

- None     slight presence     moderate presence     large presence  
 Game Fish     Non-Game Fish

Vertebrates Observed

- Turtles  None     slight presence     moderate presence     large presence  
Frogs  None     slight presence     moderate presence     large presence  
Snakes  None     slight presence     moderate presence     large presence  
Water Dependent Birds  None     slight presence     moderate presence     large presence  
Alligators  None     slight presence     moderate presence     large presence

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

Mammals Observed

- 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

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

Stream Name \_\_\_\_\_ Station ID \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

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

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

6. Is the station located in a wildlife preserve with large waterfowl population?  Yes  No

7. 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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#### D. Secondary Contact Recreation 2 Evaluation

1. Do water recreation activities that do not involve a significant risk of water ingestion occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.  Yes  No

*If no, stop here because secondary contact recreation 1 is considered the existing use. If the answer to #2 above is yes, answer #2a-c. Detailed information should be submitted to the TCEQ when justifying a secondary contact recreation 2 use for a water body.*

a. Describe the physical characteristics of the water body that hinders the frequency of primary contact 1 and/or secondary contact recreation 1 (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

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

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c. Describe frequency of use observed and the number of individuals recreating observed (Attach photos).

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#### E. 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. Detailed information regarding unsafe conditions should be submitted to the TCEQ when justifying a noncontact recreation use for a water body.*

1. Provide narrative site specific information justifying unsafe conditions and noncontact recreation. Include any additional documentation, such as photos, etc.

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**Field Data Sheet**  
Comprehensive Recreational UAA Interview Form

Stream Name: \_\_\_\_\_ Segment #: \_\_\_\_\_ Station ID: \_\_\_\_\_

Interviewer's Name: \_\_\_\_\_

Date & Time (include AM or PM): \_\_\_\_\_

Interviewed:     In person     By phone     By mail

No interviews were conducted

If no interviews were conducted, please provide an explanation:

\_\_\_\_\_

\*Are you willing to respond to a short survey about this stream?     Yes     No

If yes, complete contact information for the interviewee below. Do not collect name or contact information if interviewee is a minor.

Legal name: \_\_\_\_\_ Daytime phone number: \_\_\_\_\_

Mailing address: \_\_\_\_\_ E-mail (optional): \_\_\_\_\_

**Interviewee selected because** (e.g., house adjacent to stream; standing by stream, etc.)

\_\_\_\_\_

**Questions:**

1. Are you familiar with this stream?     Yes     No    If yes, how many years? \_\_\_\_\_

If yes, proceed to #2. If no, stop here and do not conduct an interview.

2. Describe the location(s) of the stream reach the interviewee is familiar with:

\_\_\_\_\_

3. Have the interviewer characterize the stream flow. Since the interviewer may not be familiar with TCEQ's definitions or distinction between the different water bodies, please refer to the definitions listed below when asking this question.

**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. (Channel contains flowing water for only a portion of the year and surface water may be absent at times.)

**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. (When not flowing, the water may remain in isolated pools.)

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

4. Have you or your family personally used the stream for recreation?     Yes     No

If yes, proceed to #6. If no, proceed to #5.

5(a). List reasons stream not used. \_\_\_\_\_

5(b). Proceed to #7.

6.) How do you use the stream? When did these uses occur (e.g. year(s); season) and how often (times/year)? What location did these uses occur (get specific location and mark on a map)?

Swimming     Skin Diving     Water Skiing     Wind surfing     Hunting

Tubing     Wading     Kayaking     Rafting     Trapping

Snorkeling     Fishing     Boating     Canoeing     SCUBA diving

Stream Name: \_\_\_\_\_ Segment #: \_\_\_\_\_ Station ID: \_\_\_\_\_

