Arroyo Colorado-Above Tidal Segment
Recreational Use-Attainability Analyses

Field Documentation to TMDL Program
Texas Commission on Environmental Quality
Project Work Order Number
582-11-11308-1

Nueces River Authority
Sam Sugarek
Beth Almaraz
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Site # 1

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/20/10 10:50	County Name: Cameron
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202 Site 13074
Description of Site:	13074 Arroyo Colorado @ Cemetery Rd

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less ~~than 0.1~~ cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

29.5ft

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 29.1 °C Water Temp 28.0 °C

Depth 2.0m
41 seconds
29.5ft

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

_____ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

Bridge with concrete slope, and a vehicle trail down to the bank.

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado @ Cemeteros Road Site: 13074
Date: 5/30/2010 Time: 1050

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
Driving path adjacent to 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? not sure?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 5/30/2010 Time: 10:50

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

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

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

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

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

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).
2.0m There is no hindrence at the bridge. Downstream is much less accessible due to highly vegetated and muddy banks.

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
There is not limited access.

D. Noncontact Recreation Evaluation

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 5/30/2010 FDS Page 3 of 8 Time: 10:50

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 5/30/2010 Time: 10:50

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ~~☐ Yes ☐ No~~ DBD
COMMENTS:
~~Water is easily accessible~~ DBD 5/10/2011 - Stream is non-wadeable.

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 ____

23 meters width

# Measurements	Width (meters)
1	23 m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 5/30/2010 Time: ~~1045~~ 1050 1130

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☑ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: muddy
☐ No roads	

Comments: steep slopes beyond bridge crossing, muddy swampland next to water beyond bridge crossing

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 5/30/2010 Time: 1050

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: some woody debris in water

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: saw 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: ferret-like animal present

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: plastic bags, drink bottles, cans, fishing nets (cast)

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:______________________ Date:__________

Site: 13074 ______________________ Site

Description:______________________

Time Begin:__________ Time End:__________ Meter Type:______________

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

Observations:______________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site # 2.

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 11:21	County Name: Cameron
Stream Name:	Arroyo Colorado @ FM 509
Segment No. or nearest downstream Segment No.:	2202 site: 16446
Description of Site:	Bridge Crossing @ FM 509

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 29.7 °C Water Temp 27.9 °C depth 2.5m 15m width

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

_____ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

bridge makes water accessible

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 66 16446 509 DBO DBO
Date: 5/30/2010 Time: 1121

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446 0509
Date: 5/30/2010 Time: 1121

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

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

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

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

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

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

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).
N/A

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 Arroyo Colorado Site: 16446
Date: 5/30/2010 FDS Page 3 of 8 Time 1121

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446 509
Date: 5/30/2010 Time: ~~1145~~ 1121
DBD

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	15m
Width at narrowest point of the stream within 300 meter reach	15m
Width at the widest point of the stream within 300 meter reach	15m

3 This goes under non wadeable st
DBD 5/10/

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ~~☒ Yes ☐ No~~ DBD the stream was non-wadeable 5/10/2011
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	15m
2	
3	
4	
5	
6	
7	
8	
9	
10	

thick vegetation on banks beyond bridge

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 5/30/2010 Time: 1121

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

Comments: Golf course ~~deer~~ stream of bridge 125'm

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

☐ Private Property	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: muddy banks
☐ No roads	

Comments: thick, tall vegetation next to river

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446 FM509
Date: 5/30/2010 Time: 1121

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:
Woody debris in water

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: alligator has been observed by interviewee, but not today

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: clothing, food wrappers, plastic bags, bottles, cans, cups

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:____________________ Date:__________

Site:____________________ Site

Description:____________________

Time Begin:__________ Time End:__________ Meter Type:__________

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

Observations:____________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) $Q = (W)(D)(V)$
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site #3

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 11:58	County Name: Cameron
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202 Site 13077
Description of Site:	Arroyo Colorado @ Loop 499 Bridge 499

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 29.9 °C Water Temp 28.39 °C depth 1.5m

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

RdL ✓ Forest	_____ Urban	_____ Rip rap	
RdL ✓ Shrub dominated corridor	_____ Pasture	_____ Concrete	
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____	
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank		

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

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

Very long bridge ~~with~~ and except for unpaved road is extremely rutted near the ~~east~~ crossing.

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 5/30/2010 Time: 11:58

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
☐ Wading-Adults	☐ Surfing	commonly occur were observed
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077 - 4997 DBO
Date: 5/30/2010 Time: ~~12:20~~ 11:58 DBO

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

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

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

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

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

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

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).
thick vegetation, steep slopes

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 Arroyo Colorado Site: 13077
Date: 5/30/2010 FDS Page 3 of 8 Time 11:58

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 499
Date: 5/30/2010 Time: 11:58

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ~~☑ Yes ☐ No~~ OBO 5/10/2011
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	17m
2	
3	
4	
5	
6	
7	
8	
9	
10	

not accessible due to high vegetation, tributary 70m downstream - stormwater drain ~10m accross

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 5/30/2010 Time: 11:58

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☑ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☑ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☐ Other: _____
☐ No roads	

Comments: thick vegetation

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077 499 RBS
Date: 5/30/2010 Time: 11:58

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: woody debris

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

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

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 12:55	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	site 13079
Description of Site: Arroyo Colorado @ US77 in SW Harlingen	~~US77~~ 1288

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.5 °C Water Temp 30.0 °C depth 1.78m

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

✓ Forest	✓ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

steep banks, wooded slopes, thick and tall vegetation bordering banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 5/30/2010 Time: 12:55

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). BA 5/30/10

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

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

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

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

_____
_____

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?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079 ~~US 77~~ D180
Date: 5/30/2010 Time: 12:55

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

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

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

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

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

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Steep slopes, no access by vehicle.

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).
Stream banks overgrown

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 Arroyo Colorado Site: 13079
Date: 5/30/2010 FDS Page 3 of 8 Time 12:55

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079 ~~US77 SBS~~
Date: 5/30/2010 Time: 12:55

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	17
Width at narrowest point of the stream within 300 meter reach	17
Width at the widest point of the stream within 300 meter reach	17

This info belongs in the non-wadable sect SBD 5/10/2011

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No SBD - 5/10/2011
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	17m
2	17m
3	17m
4	
5	
6	
7	
8	
9	
10	

Pictures were not taken @ 30, 150, 300m due to vegetation SBD

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 5/30/2010 Time: 12:55

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

Comments: trails/path high above waterway, steep slopes & thick vegetation beside trail

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

☐ Private Property	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: thick vegetation
☐ No roads	

Comments: _____

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079 ~~US77~~ DRP
Date: 5/30/2010 Time: 12:55

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: woody debris in water

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: cans, bags, food wrappers, plastic bottles

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________________________

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

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Svgarek, Beth Almaraz
Date & Time: 5/30/2010 13:25	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ Monland Dr. in Rangerville ~~Montana~~	

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 32.5 °C Water Temp 29.3 °C

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

_____ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): unmowed grass
_____ Mowed/maintained corridor	✓ ~~Denuded~~/Eroded bank	

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

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

access is through private property and on cul de sak. Thick vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: 5/30/2010 Time: 13:25

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Vegetation & steep banks (aprox 2 meters). No way to get out

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
Unless you heard about this site, you would most likely not find it.

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: 5/30/2010 Time: 1325

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

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

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

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

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

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
1.17m depth

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

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 Arroyo Colorado Site: AC @ Montana Dr.
Date: 5/30/2010 FDS Page 3 of 8 Time 1325

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Montana
Date: 5/30/2010 Time: 1325

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

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

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	17 m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ montana Dr.
Date: 5/30/2010 Time: 1325

F. Additional RUAA Information

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

☐ Drinking or water in mouth
☐ Bathing
☐ Walking
☐ Jogging/running
☐ Bicycling
☐ Standing
☐ Sitting
☐ Lying down/sleeping
☐ Playing on shoreline
☐ Picnicking
☐ Motorcycle/ATV
☐ Hunting/Trapping
☐ Wildlife watching
☑ None
☐ Other: _____

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

3. Check any channel obstructions that apply (Attach photos).

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

Comments: _____

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

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

Comments: _____

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: 5/30/2010 Time: 1325

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:
Woody debris

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: anti erosion material partially exposed along bank.

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:____ Date:_____________

Site:____, Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:________________________

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

Observations:____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site # 6

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Svgarek, Beth Almaraz
Date & Time: 5/30/2010 1401	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ Dilworth Rd.	Dilworth Rd.

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.5 °C Water Temp 29.3 °C 1.89m.

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

_____ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	✓ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

low water bridge crossing, tall & thick vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 5/30/2010 Time: 1401

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Steep banks with lots of regefation on bank, low water bridge crossing

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

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? no ?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445 (Alworth Rd)
Date: 5/30/2010 Time: 1401

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

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

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

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

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

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
steep banks, tall vegetation, low water bridge crossing

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 Arroyo Colorado Site: 16445
Date: 5/30/2010 FDS Page 3 of 8 14:01

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445 (Dilworth Rd.)
Date: 5/30/2010 Time: 1401

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☒ Yes ☐ No
COMMENTS: RBD - undo this remark as the stream is non-wadeable.

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	12.8
2	
3	
4	
5	
6	
7	
8	
9	
10	

Pictures @ 30, 150, 300m were not taken due to inaccessibility - private property

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 5/30/2010 Time: 14:01

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☑ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence
☐ 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	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445 Dilworth Rd.
Date: 5/30/2010 Time: 14:01

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: Wooded debris

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: Actually none!

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________

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

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) $Q = (W)(D)(V)$
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site# 7

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sagarek, Beth Almaraz
Date & Time: 5/30/2010 1434	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site: Arroyo Colorado @ FM 802	~~802~~ 803

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 35.2 °C Water Temp 28.9 °C 1.5m depth

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

✓ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

thick vegetation, steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM800
Date: 5/30/2010 Time: 1434

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? ? no

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM800
Date: 5/30/2010 Time: 2:34

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

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

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

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM800
Date: 5/30/2010 FDS Page 3 of 8 Time: 1434

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 800
Date: 5/30/2010 Time: 1434

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

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

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

# Measurements	Width (meters)
1	15m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM800
Date: 5/30/2010 Time: 1434

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence	
☐ No trespass sign	☐ Barge/ship traffic	
☐ Wildlife	☐ Industrial	
☑ Steep slopes	☐ None of the Above	
☐ No public access	☐ Other: _____	
☐ No roads		

Comments: thick vegetation

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 800
Date: _____ Time: 1434

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:
woody debris

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: 4 horses on private land

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: plastic bottles in water

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________________

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

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site #8

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time:	5/30/2010 1455 County Name: Cameron
Stream Name:	Arroyo Colorado @ FM 506 South of La Feria
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM506 South of La Feria ~~Site~~ #8

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 32.4 °C Water Temp 28.9 °C 1.58m depth

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

✓ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

heavy vegetation, steep slopes on bridge

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 5/30/2010 Time: 1455

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
☐ Wading-Adults	☐ Surfing	commonly occur were observed
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

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

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

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

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

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? ? no

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: 13080 ~~506~~ SBD
Date: 5/30/2010 Time: ~~255~~ 1455 SBD

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

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

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep slopes at bridge, heavy thick vegetation, deep water

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 5/30/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080 506 ORS
Date: 5/30/2010 Time: 1455

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

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

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	18m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 5/30/2010 Time: 1455

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): Bridge pillar			

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	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☐ Other: _____
☐ No roads	

Comments: thick vegetation

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080 ~~506 1831~~
Date: 5/30/2010 Time: 1455

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: woody debris

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: plastic bags

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

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

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #9

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 1523	County Name: Hidalgo / Cameron County Line
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 2556	2556

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 32.6 °C Water Temp 29.8 °C depth 1.3m

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

✓ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

_____

_____

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 5/30/2010 Time: 1523

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM2556 ~~2556~~ SBS
Date: 5/30/2010 Time: ~~323~~ SBS 1523

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

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

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

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

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

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

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
private land "Refugio Nacional de Fauna Silvestre"

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 Arroyo Colorado Site: AC @ FM 2556
Date: 5/30/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 5/30/2010 Time: 1523

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

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

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	12 m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 5/30/2010 Time: 1523

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). BS 5/30/10

☐ 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	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence
☑ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☐ Steep slopes	☐ None of the Above
☐ No public access	☐ Other: _____
☐ No roads	

Comments: heavy vegetation

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2556
Date: 5/30/2010 Time: 1523

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:
woody debris

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 8 5/30/10	☑ 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 horses

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: plastic bottles

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:____ Date:____________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:____________________

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

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

site # 10
164424

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 1549	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 491 SE of Mercedes	49T 0130

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.5 °C Water Temp 29.2 °C 1.18m depth

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

✓ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	✓ Row crops RB	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

Except for directly under the bridge, there is a lot of thick vegetation. Under the bridge the water drops off.

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010 Time: 1549

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
small dirt parking lot & easy trail down below the 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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010 Time: 1549

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

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

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

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

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

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

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

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 Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010 Time: 1549

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No QBD 5/10/2011
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	11.0m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010 Time: 1549

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

Comments: The site is close to New Hope Ranch which borders the Arroyo Colorado

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

☐ Private Property	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☐ 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	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☑ Fire pit/ring	☐ Children's toys	
☑ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: There was a small dirt road adjacent to the Arroyo that was used by fishermen that day.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 5/30/2010 Time: 1549

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:
Some floating wooded debris

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 Raccoon

11. Garbage Observed
Large garbage in the channel ☑ None ☐ Rare ☐ Common ☐ Abundant
Small garbage in the channel ☑ None ☐ Rare ☐ Common ☐ Abundant
Bank Garbage ☐ None ☐ Rare ☑ Common ☐ Abundant
Briefly describe the kinds of garbage observed:
Plastic bags / bottles, TV set

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:______________________________ Date:____________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________

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

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #11

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/30/2010 1701	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ Llano Grande RV Park ~~Llano Grande RV Park~~ DS

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

4. Water Quality Data (Field Parameters)

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

Air Temp 31.2 °C Water Temp 29.3 °C 0.53 @ 5m from edge.

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

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

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

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

Vegetation next to bank

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 5/30/2010 Time: 1701

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 5/30/2010 Time: 1701

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

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

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

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

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

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

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

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 Arroyo Colorado Site: Llano Grande RV Park
Date: 5/30/2010

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Hano Grande RV Park
Date: 5/30/2010 Time: 1701

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS: NA - This is a non-wadeable stream

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

# Measurements	Width (meters)
1	168m 163
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 5/30/2010 Time: 1701

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

Comments: Levee Road ~ 52m from water

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

☐ Private Property	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☐ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: tall vegetation
☐ No roads	

Comments: _____

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 5/30/2010 Time: 1701

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:________________________________ Date:__________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:____________________

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

Observations:____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site # 12

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Suggrek Beth Almaraz
Date & Time: 5/30/10 1757	County Name:
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 1015 South of Weseco	FM 1015

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

4. Water Quality Data (Field Parameters)

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

Air Temp 31.1 °C Water Temp 29.5 °C 0.76 m depth

12' to water surface
19s-depth for 10'

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

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

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

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

Lots of vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081 1015 DP
Date: 5/30/2010 Time: 1757

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? ? no

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☑ Other secondary contact activities: casting for bait

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081 ~~FM 1015~~ DBS
Date: 5/30/10 Time: 1757

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

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

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

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

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

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

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

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 Arroyo Colorado Site: 13081
Date: 5/20/2010 FDS Page 3 of 8 1757

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081 ~~EMIOIS~~ DBS
Date: 5/30/2010 Time: 1757

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No DBS - this is a non wadeable stream DBS
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

# Measurements	Width (meters)
1	45m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081
Date: 5/30/2011 Time: 1757 1015

F. Additional RUAA Information

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

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☑ Other: casting for bait

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

Comments: _____

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

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

Comments: thick vegetation

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081 FM 1015 RBP
Date: 5/30/2011 Time: 642 1757

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: cans, plastic bottles

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________

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

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

site # 13

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almeraz
Date & Time:	1600 - 5/30/10 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ Texas Blvd

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 29.6 °C depth 1.28

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

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

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

Water easily gotten to under bridge, but further upstream steep banks & heavy vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Texas Blvd
Date: 5/31/2010 Time: 1608

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: TEXAS
Date: 5/31/2010 Time: 1608

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

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

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

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

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

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

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).
11

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 Arroyo Colorado Site: Texas Blvd
Date: 5/31/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Texas Blvd
Date: _____ Time: 1608

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

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

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

_____

_____

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	17
2	
3	
4	
5	
6	
7	
8	
9	
10	

not accessible

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Texas Blvd
Date: 5/31/2010 Time: 1608

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: _____
☐ No roads	

Comments: thick vegetation

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

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

Comments: graffiti

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Texas
Date: 5/31/2010 Time: 1608

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: utility pipe blocks & traps floating debris - cans, bottles, plastic, wood

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:____ Date:____________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:______________________

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

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site # 14

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek Beth Almaraz
Date & Time:	1534 5/31/2010 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 493 Southbound Ramp 493

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 29.6 ° C depth 0.88m

19.6 Ft. 11 seconds/ 10ft.

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

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

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

steep banks, thick vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: ACE FM 493
Date: 5/31/2010 Time: 1534

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ 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: ☑ 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).

_____
_____

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?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: ACOFM493
Date: 5/31/2010 Time: 1534

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

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

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

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

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

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

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

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: FM493
Date: 5/31/2010

E. Stream Channel and Substantial Pool:
Please check the following which best describes the river or stream: ☑ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

not accessible

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM493
Date: 5/24/2010 Time: 1534

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	17
Width at narrowest point of the stream within 300 meter reach	20
Width at the widest point of the stream within 300 meter reach	15

SDS

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS: ABP - Stream is non wadeable.

ABP 5/10/2011

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____

not accessible.

# Measurements	Width (meters)
1	17
2	20
3	15
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 493
Date: 5/31/2010 Time: 1534

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ 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	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 493
Date: 5/31/2000 Time: 1534

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:______________________________ Date:____________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:______________

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

Observations:____

[redacted]

Site #15

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugeneh
Date & Time: 5/31/2010 1431	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site: Arroyo Colorado @	Valley View Rd

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

4. Water Quality Data (Field Parameters)

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

Air Temp _____ ° C Water Temp _____ ° C

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

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

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

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

steep banks, thick tall vegetation, large levee restricts access

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: _____
Date: 5/31/2010 Time: 1431

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ 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: ☑ 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).
steep banks, thick vegetation, swift moving water

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd
Date: 5/31/2010 Time: 1431

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

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

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

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

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

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

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
4

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 Arroyo Colorado Site: Valley View Rd
Date: 5/31/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd
Date: 5/31/2010 Time: 1431

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	10
Width at narrowest point of the stream within 300 meter reach	8
Width at the widest point of the stream within 300 meter reach	16

ABL stream is nonwadeable

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____

not accessible

# Measurements	Width (meters)
1	10
2	8
3	16
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Road
Date: 5/31/2010 Time: 1431

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

Comments: levee road

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

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

Comments: thick vegetation, swift moving water

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 5/31/2010 Time: 1431

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: plastic

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:______________________________ Date:__________

Site:______________________________________ Site

Description:____________________________________

Time Begin:________ Time End:________ Meter Type:________________

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

Observations:____________________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V) At Point (ft/s)(m/s)	Velocity (V) Average (ft/s)(m/s)	Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)

site # 16

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Suganuma, Beth Almaraz
Date & Time: 5/31/10 1437	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 907 South of Donna

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 32.0 °C 0.59 depth

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

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

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

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

Steep banks, thick vegetation

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado ~~Sam Sugarek~~ Site: AC @ FM 907
Date: 5/31/2010 Time: 1432

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 907
Date: 5/31/2010 Time: 1432

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

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

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

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

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

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

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

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: AC @ FM 907
Date: 5/31/2016

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

NOT accessible

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado ~~Santa Gertrudis~~ Site: AC @ FM 907
Date: 5/31/2020 Time: 1432

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	6
Width at narrowest point of the stream within 300 meter reach	6
Width at the widest point of the stream within 300 meter reach	6

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS: DBD - The stream as nonwadeable.

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 907
Date: 5/31/2010 Time: 1432

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☑ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ 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	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 907
Date: 5/31/2010 Time: 1432

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: cups, plastic bottles, bags

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:__________

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

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site # 17

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek
Date & Time: 5/31/2010 1402	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ US 281 Southbound Pharr ~~281~~	

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 32.7 °C Water Temp 29.5 °C 0.88 depth 15.8' to water 15 sec, ~ 10'

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

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

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

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

thick, tall vegetation on banks, steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC 2 281
Date: 5/31/2010 Time: 1402

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @FM 281
Date: 5/31/2006 Time: 1402

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

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

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

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

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

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
11

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).
11

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 Arroyo Colorado Site: AC @ US FM 2881
Date: 5/31/2010

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

NOT ACCESSIBLE

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

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

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

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: ACO US 281
Date: 5/31/2010 Time: 1402

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	14
Width at narrowest point of the stream within 300 meter reach	~10
Width at the widest point of the stream within 300 meter reach	14

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS: DBO The stream is non-wadeable.

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	14
2	10
3	14
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: AC @ US281
Date: 5/31/2010 Time: 1402

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: There is a riffle area that could potentially allow access

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	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☑ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: thick vegetation, steep banks
☐ No roads	

Comments: _____

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ US 281
Date: 5/31/2010 Time: 1402

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: tires, plastic cups, bags, cans

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

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

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

Stream:______________________________ Date:____________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:________________

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

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site # 18

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Suganek, Beth Almaraz
Date & Time: 1335	5/31/2010 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ 2061 SE of McAllen ~~2061~~

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.8 °C Water Temp 29.6 °C

depth 0.47m

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

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

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

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

steep banks, tall vegetation in some areas

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2061
Date: 5/31/2010 Time: 1335

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2069
Date: 5/31/2010 Time: 1335

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

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

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

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

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

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

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

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: AC @ FM 2061
Date: 5/31/2010

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☒ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

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

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

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

Distance	Depth (meters)
30 meters	0.47
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2061
Date: 5/31/2010 Time: 1335

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	15 m
Width at narrowest point of the stream within 300 meter reach	13 m
Width at the widest point of the stream within 300 meter reach	16 m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS: DBS - stream is non-wadeable

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

# Measurements	Width (meters)
1	15 m
2	13 m
3	16 m
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2061
Date: 5/31/2010 Time: 1335

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☐ No public access	☑ Other: _____
☐ No roads	

Comments: some areas of tall vegetation on banks

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2041
Date: 5/31/2010 Time: 1335

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: plastic bags, cans, bottles

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:______________________________________ Date:__________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:____________________

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

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

site # 19

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek Beth Almaraz
Date & Time: 5/31/2010 1255	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 336 South of McAllen 336	

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.5 ° C Water Temp 28.9 ° C 0.714m depth 155 seconds 22.4

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

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

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

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

Steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 336
Date: 5/31/2010 Time: 1255

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC 0 FM 336
Date: 5/31/2010 Time: 1255

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

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

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

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

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

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

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 Arroyo Colorado Site: ACO FM 336
Date: 5/31/2010 FDS Page 3 of 8 1255

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☒ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

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

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

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

Distance	Depth (meters)
30 meters	0.71
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @FM 33
Date: 5/31/2010 Time: 1255

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	15
Width at narrowest point of the stream within 300 meter reach	15
Width at the widest point of the stream within 300 meter reach	15

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No PBD
COMMENTS: This stream is non-wadeable PBD

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

# Measurements	Width (meters)
1	15
2	15
3	15
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: AC @ FM 336
Date: 5/31/2010 Time: 1255

F. Additional RUAA Information

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

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

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

3. Check any channel obstructions that apply (Attach photos).

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

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

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

Comments: _____

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

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

Comments: _____

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

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

BA 5/31/10

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 336
Date: 5/31/2010 Time: 1255

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: cups, plastic bags, cans

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

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

Field Data Sheet - Basic RUAA Survey

Stream Flow (Discharge) Measurement

Stream:____ Date:__________

Site:____ Site

Description:____

Time Begin:_________ Time End:_________ Meter Type:_________________________

Observers:____________________ Stream Width*:________ Section Width (W):_________

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site # 2
13087

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almeraz, Sam Sugarek
Date & Time: 5/31/2010 1146	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 115 South of McAllen #5

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 33.0 °C Water Temp 28.7 °C 0.58m depth

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

_____ Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
___✓___ Herbaceous marsh	_____ Row crops	Other (specify): _____
___✓___ Mowed/maintained corridor	_____ Denuded/Eroded bank	

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

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

steep banks, tall vegetation in areas

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 115
Date: 5/31/2010 Time: 1146

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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?

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC 0 FM 115 DBD
Date: 5/31/2010 Time: 1146

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

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

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

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

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

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

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

D. Noncontact Recreation Evaluation

Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: AC @ FM 1015
Date: 5/31/2010

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

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

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

Distance	Depth (meters)
30 meters	0.58
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 115
Date: 5/31/2010 Time: 1146

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

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

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No N/A - This answers does not apply to non-wadeable streams.
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: AC @ FM 115
Date: 5/31/2010 Time: 1146

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence
☑ No trespass sign	☐ Barge/ship traffic
☐ Wildlife	☐ Industrial
☑ Steep slopes	☐ None of the Above
☑ No public access	☐ Other: _____
☐ No roads	

Comments: tall vegetation in areas

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 115
Date: 5/31/2010 Time: 1146

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:
cups, cans, plastic bags

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:______________________________________ Date:__________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:__________________

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

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/31/2010 11:05	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 494 West of McAllen 494

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 30.7 °C Water Temp 27.41 °C depth 0.32 m

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

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

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

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

Steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 494
Date: 5/31/2010 Time: 1105

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
BA 5/31/10

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 494
Date: 5/31/2010 Time: 1105

b. Check the number of individuals observed at the site.
☒ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50
BA 5/31/10 individuals did not speak English
c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☑ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

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

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

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

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

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).
n

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 Arroyo Colorado Site: AC @ FM 494
Date: 5/31/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

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

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

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

Distance	Depth (meters)
30 meters	0.3
60 meters	0.31
90 meters	0.32
120 meters	0.3
150 meters	0.33
180 meters	0.29
210 meters	0.32
240 meters	0.35
270 meters	0.3
300 meters	0.31
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 494
Date: 3/31/2010 Time: 1105

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	8m
Width at narrowest point of the stream within 300 meter reach	8m
Width at the widest point of the stream within 300 meter reach	15m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☑ No, 180
COMMENTS:

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 494
Date: 5/31/2010 Time: 1105

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 BA 5/31/10
☑ Sitting	☐ Other: _____
☐ Lying down/sleeping	

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

3. Check any channel obstructions that apply (Attach photos).

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

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

☐ Campgrounds	☐ Stairs/walkway	☑ Roads (paved/unpaved)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☑ Residential	☐ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☑ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☑ 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	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 494
Date: 5/31/2010 Time: 1105

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: plastic bottles, cups, bags

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).

flow representative of 2062

Field Data Sheet - Basic RUAA Survey

Stream Flow (Discharge) Measurement

Stream:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:__________

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

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V) At Point (ft/s)(m/s)	Velocity (V) Average (ft/s)(m/s)	Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)

SITE # 22

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 5/31/2010 1030	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @FM 1016 South Mission ~~1016~~

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 30.7 °C Water Temp 27.25° C 0.5 ft depth

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

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

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

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

steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 1016
Date: 5/31/2010 Time: 1030

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road/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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 1016
Date: 5/31/2010 Time: ~~AC @ FM~~ 1030
DO

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

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

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

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

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

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

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
11

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 Arroyo Colorado Site: AC @ FM1016
Date: 5/31/2010 FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☑ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

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

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

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

Distance	Depth (meters)
30 meters	0.1
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: ACO FM 1016
Date: 5/31/2010 Time: 1030

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

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

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 1016
Date: 5/31/2010 Time: 1030

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)	☐ Other:_____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☑ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☐ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ 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	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments:_____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 1016
Date: 5/31/2010 Time: 1030

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: tire, wooden pallet, cans, bottles, plastic

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).

flow representative of site @ 2062

Field Data Sheet - Basic RUAA Survey

Stream Flow (Discharge) Measurement

Stream: Arroyo Colorado Date: 5/31/10

Site: 1016 Site

Description:

Time Begin: 1045 Time End: Meter Type:

Observers: SS, BA Stream Width*: Section Width (W):

Observations:

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site # 23

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time:	5/31/2010 8:48 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 2062 - segment boundary ~~2062~~ 2202

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

4. Water Quality Data (Field Parameters)

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

Air Temp 26.9 °C Water Temp 26.05 °C

0.51m BA

~~0.367m~~ depth

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

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

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

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

steep banks

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2062
Date: 5/31/2010 Time: 1348

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

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? ? no

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2062
Date: 5/31/2010 Time: 848

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

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

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

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

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

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
11

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).
11

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 Arroyo Colorado Site: AC @ FM 2062
Date: 5/31/2010

E. Stream Channel and Substantial Pools

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

1. Wadeable Streams ✓

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

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

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

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

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

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

Distance	Depth (meters)
30 meters	0.65
60 meters	1.25
90 meters	1.25
120 meters	1.25
150 meters	1.4
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: ACO FM 2062
Date: Time: 8:48

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	3.28
Width at narrowest point of the stream within 300 meter reach	3.28
Width at the widest point of the stream within 300 meter reach	3.28

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

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

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2062
Date: 5/31/2010 Time: 848

F. Additional RUAA Information

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

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

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

3. Check any channel obstructions that apply (Attach photos).

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

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

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

Comments: _____

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

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

Comments: _____

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2062
Date: 5/31/2010 Time: 848

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: paper, plastic

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: Arroyo Colorado Date: 5/31/10

Site: Arroyo Colorado @ FM 2062 ~~2062~~ Site

Description:

Time Begin: 0900 Time End: Meter Type: SonTek ADCP

Observers: SS, BA Stream Width*: 12'6" Section Width (W): 0.6

Observations:

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	
0.3	0.4 ft			0.0	0
0.9	0.4 ft			0.0	0
1.5	0.45 ft			0.0	0
2.1	0.7 ft			0.0	0
2.7	0.9 ft			0.02	0.0108
3.3	1.0 ft			0.01	0.006
3.9	1.1 ft			0.07	0.0462
4.5	1.15 ft			0.16	0.1104
5.1	1.2 ft			0.37	0.2664
5.7	1.25 ft			0.40	0.3
6.3	1.15 ft			0.41	0.2829
6.9	1.2 ft			0.43	0.3096
7.5	1.15 ft			0.39	0.2691
8.1	1.15 ft			0.40	0.2760
8.7	1.25 ft			0.31	0.2325
9.3	1.25 ft			0.28	BA 5/31/10 0.21
9.9	1.25 ft			~~0.19~~ 0.24	0.18
10.5	1.15 ft			0.25	0.1725
11.1	0.95 ft			0.19	0.1083
11.7	0.60 ft			0.01	0.0042
~~12.3~~ 12.3	0.40 ft			0.0	0

BA 5/31/10

2.3048

#1

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almeraz NRA
Date & Time: 4/23/2011 10:44	County Name: Cameron
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	13074 Arroyo Colorado @ Cemetery Road

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

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

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

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

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 28.2 °C Water Temp 27.9 °C

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

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

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

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

bridge crossing, trails

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 4/23/2011 Time: 1044

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? BJS 4/27/11
☑ Yes ☐ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

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

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

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

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

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

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 4/23/11 Time: 1044

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

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

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

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

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

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).
Under the bridge the bank is easily accessible. Upstream, there is a unpaved road that allows partial access. Downstream is highly vegetated and the stream is limited access

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).
There is not limited access of this site

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 Arroyo Colorado Site: 13074
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
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.

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

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

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

#1

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 4/23/11 Time: 1044

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	~~95 ft. (m)~~
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

ABS 4/28/

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

COMMENTS:
~~water is easily accessible~~ ABS 4/28/2011

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 c Downstream c Left Bank c Right Bank ✓
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

95ft.

# Measurements	Width (meters)
1	28.96m
2	
3	
4	
5	
6	
7	
8	
9	
10	

28.96 m

depth - 2.0 m

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: _____ Time: _____

F. Additional RUAA Information

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

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☑ Sitting
- ☐ Lying down/sleeping
- ☑ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: _____

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

3. Check any channel obstructions that apply (Attach photos).

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

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

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

Comments: _____

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

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

Comments: steep banks

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

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

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13074
Date: 4/23/11 Time: 1049

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: * Dog carcass at top of hill near bridge

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: bottles, chair, sofa, mattress, plastic bags, carpet, rug, cans, tires

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:______________________________ Date:____________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________________________

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

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#2

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz NRA
Date & Time:	4/13/11 1138 County Name: Cameron
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	16446 Arroyo Colorado @ FM 509

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.5 °C Water Temp 26.8 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R&L Forest	_____ Urban	_____ Rip rap	
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete	
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____	
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank		

6. Ease of bank access to the water body: ☐ Easy ☑ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks, tall vegetation

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 9/23/11 Time: 1138

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ 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: ☑ 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).
Steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 4/23/11 Time: 1136

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks, tall vegetation

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
steep banks, tall vegetation

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 Arroyo Colorado Site: 16446
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
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.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#2

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 4/23/11 Time: 1138

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	72ft 21.95m
2	
3	
4	
5	
6	
7	
8	
9	
10	

up
rightbank
Leftbank
Down
Left
Right

depth - 2.9 m
Thick vegetation on banks prevented photos

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 4/23/11 Time: 1138

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: 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	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☑ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence	
☑ No trespass sign	☐ Barge/ship traffic	
☐ Wildlife	☐ Industrial	
☑ Steep slopes	☐ None of the Above	
☐ No public access	☐ Other: ~~graff~~	
☐ No roads		

Comments: property of Fruit of the Loom !

6. Check any indications of human use (Attach photos).

☐ Roads	☐ RV/ATV Tracks	☐ NPDES Discharge	☐ Organized event
☐ Rope swings	☐ Camping Sites	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☑ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☑ Other: graffiti			

Comments: _____

#2

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16446
Date: 4/23/2015 Time: 1138

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: tracks

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:
diaper, cigarette boxes, beer bottles

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#3

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sygarek, Beth Almaraz
Date & Time: 4/23/14 1212	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ Loop 499 Bridge	site 13077

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.2 °C Water Temp 26.9 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

R L Forest	L Urban	_____ Rip rap
R L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	R 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):

thick vegetation, steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☑ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 4/23/11 Time: 1212

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☑ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
depth 1.5m, thick vegetation, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 4/23/11 Time: 1212

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks, thick vegetation

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☑ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
see #2

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
see #2

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 Arroyo Colorado Site: 13077
Date: _____ FDS Page 3 of 8 _____

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 4/23/2011 Time: 1212

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	65' (19.8m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

The banks weren't accessible due to high vegetation.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 4/23/11 Time: 1212

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☑ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None BA 4/23/11
- ☐ Other: _____

on bridge F.

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): _____
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☑ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☑ Rural area
- ☐ Residential
- ☐ National forests
- ☑ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☑ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

4/23/11 BA

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: thick vegetation

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☑ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: _____

#3

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13077
Date: 4/23/11 Time: 1212

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:
plastic bags

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#4

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek NRA
Date & Time: 4/23/2011 12:55	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ US 77 in SW Harlingen 13079	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 31.3 °C Water Temp 27.44 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	✓ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☐ Moderately difficult ☑ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Thick vegetation, steep banks, wooded slopes next to river

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 4/23/2011 Time: 1255

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
☐ Wading-Adults	☐ Surfing	commonly occur were observed
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
deep water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 4/23/2011 Time: 1255

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks, thick vegetation next to water

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☑ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: see #5

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).
steep slopes, no access

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).
phragmites/Arundo bordering stream on banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 9/28/11 1255

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 4/23/2011 Time: 1255

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ~~Yes~~ _ No
COMMENTS: ABD 4/28/2011

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	61' (18.59m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth - 1.7m

Pictures @ 30, 150, 300m were not taken due to vegetation

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 4/27/11 Time: 1255

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- [ ] Drinking or water in mouth
- [ ] Bathing
- [ ] Walking
- [ ] Jogging/running
- [ ] Bicycling
- [ ] Standing
- [ ] Sitting
- [ ] Lying down/sleeping
- [ ] Playing on shoreline
- [ ] Picnicking
- [ ] Motorcycle/ATV
- [ ] Hunting/Trapping
- [ ] Wildlife watching
- [x] None
- [ ] Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? [ ] Yes [x] No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- [ ] Culverts
- [ ] Barbed wire
- [ ] Utility pipe
- [ ] Fences
- [ ] Dams
- [ ] Other (specify): _____
- [ ] Log jams
- [x] High vegetation BA 4/27/11
- [ ] Rip rap
- [ ] Low bridges
- [ ] Water control structure
- [ ] None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- [ ] Campgrounds
- [ ] Playgrounds
- [ ] Rural area
- [ ] Residential
- [ ] National forests
- [ ] Urban/suburban location
- [ ] Golf Course
- [ ] Sports Field
- [ ] Stairs/walkway
- [ ] Boating access (ramps)
- [ ] Beach
- [ ] Bridge crossing
- [ ] Commercial boating
- [ ] Trails/paths (hiking/biking)
- [ ] Paved parking lot
- [x] Unimproved parking lot
- [ ] Roads (paved/unpaved)
- [x] Populated area
- [ ] Docks or rafts
- [ ] Commercial outfitter
- [ ] Nearby school
- [ ] Power Line Corridor
- [ ] Parks (national/city/county/state)
- [ ] Public Property
- [ ] Other: _____
- [ ] None of the Above

Comments: There is a hike/bike path that is adjacent to stream. Vegetation along bank is thick in most places

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- [ ] Private Property
- [ ] No trespass sign
- [ ] Wildlife
- [x] Steep slopes
- [ ] No public access
- [ ] No roads
- [ ] Fence
- [ ] Barge/ship traffic
- [ ] Industrial
- [ ] None of the Above
- [x] Other: Thick Vegetation

Comments: _____

6. Check any indications of human use (Attach photos).

- [ ] Roads
- [ ] Rope swings
- [ ] Dock/platform
- [x] Foot paths/prints
- [ ] Other: _____
- [ ] RV/ATV Tracks
- [ ] Camping Sites
- [ ] Fire pit/ring
- [ ] Fishing Tackle
- [ ] NPDES Discharge
- [ ] Gates on corridor
- [ ] Children's toys
- [ ] Remnant's of Kid's play
- [ ] Organized event
- [ ] No Human Presence

Comments: _____

#4

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13079
Date: 4-23-11 Time: 1255

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: plastic, paper, cans

12. Is the site located in a wildlife preserve with large wildlife (i.e waterfowl) population? ☐ Yes ☑ No

13. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Field Data Sheet - Basic RUAA Survey
Stream Flow (Discharge) Measurement

Stream:______________________________ Date:______________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________

Observers:______________ Stream Width*:__________ Section Width (W):__________

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Siggerk, NRA
Date & Time: 4/23/2014 1336	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ Montana Dr. in Rangerville	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 32.3 °C Water Temp 27.7 °C

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	R Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	R Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☐ Moderately difficult ☑ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Steep banks, access is through private property on a cul de sac

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Drive
Date: 4/23/11 Time: 1330

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ 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: ☑ 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).
Steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
Unless you know this place is here, you would most likely not find it. It's in a cul de sak and on private property

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Drive.
Date: 4/23/11 Time: 1336

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☑ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
deep water, steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
steep banks, Private property

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Rd.
Date: 4/23/11 1336

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ___ Wadeable ___ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#5

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: 4/23/11 Time: 1336

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? X Yes No
COMMENTS: 123

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	19m
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth = 1.84 m

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: _____ Time: _____

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): _____
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☑ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☑ Residential
- ☐ National forests
- ☑ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☐ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☑ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- None of the Above

Comments: There was a middle school across the street (Ben Milam)

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☑ No public access
- ☑ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☑ No Human Presence

Comments: _____

#5

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ Montana Dr.
Date: _____ Time: _____

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: turtle 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: ☑ none

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#6

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek NRA
Date & Time: 4/23/2011 14:20	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site: Arroyo Colorado @ Dilworth Rd.	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

✓ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 31.4 °C Water Temp 28.0 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
___— Shrub dominated corridor	___✓ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

This site is a low water bridge crossing bordered by river cane

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 4/23/2011 Time: 1420

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☑ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Steep banks ~~with~~ off lined with rivercane, low water bridge crossing,

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
not accessible by the public due to adjacent river cane.

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? no.

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 4/23/2011 Time: 1420

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks, thick vegetation

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☑ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
deep water, steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
stream banks overgrown

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 Arroyo Colorado Site: 16445
Date: 4/23/11 FDS Page 3 of 8 1420

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#6

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 4-23-11 Time: 1420

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	42' (12.8m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth 1.9 m

Pictures @ 30, 150, 300m were not taken due to inaccessibility - private property

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16445
Date: 4/23/2011 Time: 1420

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☑ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☑ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☑ Fence	
☐ No trespass sign	☐ Barge/ship traffic	
☐ Wildlife	☐ Industrial	
☑ Steep slopes	☐ None of the Above	
☐ No public access	☐ Other: _____	
☐ No roads		

Comments: thick vegetation

6. Check any indications of human use (Attach photos).

☐ Roads	☐ RV/ATV Tracks	☐ NPDES Discharge	☐ Organized event
☐ Rope swings	☐ Camping Sites	☐ Gates on corridor	☑ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 16495
Date: 4/23/2011 Time: 1420

7. Check all water characteristics that apply (Attach photos).
Aquatic Vegetation: ☐ absent ☑ rare ☐ common ☐ abundant
Algae Cover: ☑ absent ☐ rare ☐ common ☐ abundant
Odor: ☑ none ☐ rare ☐ common ☐ abundant
Color: ☐ clear ☐ green ☐ red ☑ brown ☐ black
Bottom Deposit: ☐ sludge ☐ solids ☑ fine sediments ☐ none ☐ other
Water Surface: ☐ clear ☐ scum ☐ foam ☑ debris ☐ oil
Other: woody debris

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: plastic

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#7

Bridge closed for construction

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 4/23/11	1446 County Name: Cameron
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 800

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☐ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp _____ ° C Water Temp _____ ° C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

_____

_____

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☐ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name_____ Site: _____
Date: _____ Time: _____

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
☐ Wading-Adults ☐ Surfing commonly occur were observed
☐ Swimming ☐ Whitewater-kayaking, canoeing, rafting
☐ Water skiing ☐ Other: _____
☐ Diving ☐ frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: ☐ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

_____
_____

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?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name_____ Site: _____
Date: _____ Time: _____

b. Check the number of individuals observed at the site.
☐ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

_____
_____

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

_____
_____
_____

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

_____
_____
_____

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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_____ Site: _____
Date: _____

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: _ Wadeable _ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name_____ Site: _____
Date: _____ Time: _____

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

_____

_____

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

This site was not monitored due to the ongoing construction ~~at the~~ at the site. The bridge was being replaced and signs were posted to keep out.

Field Data Sheets – Basic RUAA Survey

Stream Name_____ Site: _____
Date: _____ Time: _____

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)	☐ Other:_____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☐ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ 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	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments:_____

Field Data Sheets – Basic RUAA Survey

Stream Name_____ Site: _____
Date: _____ Time: _____

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#8

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek NRA
Date & Time: 4/23/2011 1456	County Name: Cameron
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 506 Southof La Feria 13080	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.8 °C Water Temp 27.2 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

✓ Forest	_____ Urban	_____ Rip rap
✓ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	✓ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☑ Easy ☐ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

heavy vegetation, steep slope

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: 13080
Date: 4/23/11 Time: 1456

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
☐ Wading-Adults	☐ Surfing	commonly occur were observed
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☑ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☑ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
deep water, steep slopes, heavy vegetation

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge crossing

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? no

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 4/23/2014 Time: 1436

b. Check the number of individuals observed at the site.
☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☑ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are (not) observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). RC
steep slopes at bridge; heavy thick vegetation; deep water.

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☑ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
see 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).
See 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.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pool
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 4/23/14 Time: 1456

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	43' (13.11m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

13.11 m

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: 13080
Date: 4/23/11 Time: 1456

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- [ ] Drinking or water in mouth
- [ ] Bathing
- [ ] Walking
- [ ] Jogging/running
- [ ] Bicycling
- [ ] Standing
- [x] Sitting
- [ ] Lying down/sleeping
- [ ] Playing on shoreline
- [ ] Picnicking
- [ ] Motorcycle/ATV
- [ ] Hunting/Trapping
- [ ] Wildlife watching
- [ ] None
- [ ] Other: Fishing

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
- [ ] Barbed wire
- [ ] Utility pipe
- [ ] Fences
- [ ] Dams
- [ ] Other (specify): bridge pillar
- [ ] Log jams
- [ ] Thick vegetation
- [ ] Rip rap
- [x] Low bridges
- [ ] Water control structure
- [ ] None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- [ ] Campgrounds
- [ ] Playgrounds
- [x] Rural area
- [ ] Residential
- [ ] National forests
- [ ] Urban/suburban location
- [ ] Golf Course
- [ ] Sports Field
- [ ] Stairs/walkway
- [ ] Boating access (ramps)
- [ ] Beach
- [x] Bridge crossing
- [ ] Commercial boating
- [ ] Trails/paths (hiking/biking)
- [ ] Paved parking lot
- [ ] Unimproved parking lot
- [x] Roads (paved/unpaved)
- [ ] Populated area
- [ ] Docks or rafts
- [ ] Commercial outfitter
- [ ] Nearby school
- [ ] Power Line Corridor
- [ ] Parks (national/city/county/state)
- [ ] Public Property
- [ ] Other: _____
- [ ] None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- [ ] Private Property
- [ ] No trespass sign
- [ ] Wildlife
- [ ] Steep slopes
- [ ] No public access
- [ ] No roads
- [ ] Fence
- [ ] Barge/ship traffic
- [ ] Industrial
- [ ] None of the Above
- [ ] Other: _____

Comments: thick vegetation.

6. Check any indications of human use (Attach photos).

- [ ] Roads
- [ ] Rope swings
- [ ] Dock/platform
- [x] Foot paths/prints
- [x] Other: _____
- [ ] RV/ATV Tracks
- [ ] Camping Sites
- [ ] Fire pit/ring
- [x] Fishing Tackle
- [ ] NPDES Discharge
- [ ] Gates on corridor
- [ ] Children's toys
- [ ] Remnant's of Kid's play
- [ ] Organized event
- [ ] No Human Presence

Comments: chairs

#8

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13080
Date: 4-23-11 Time: 1456

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: cans, plastic

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#9

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek, NRA
Date & Time: 4/23/11 1541	County Name: ~~Hidalgo~~ Cameron ~~County Line~~
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 2556	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 27.9 °C Water Temp 32.2 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	✓ Rip rap
LR Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☑ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks, tall vegetation

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 4/23/11 Time: 1541

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☑ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
low bridge crossing, rip rap, tall vegetation

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 4/23/11 Time: 1541

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
deep water, tall vegetation, steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☑ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
see #2

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
see #2

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 Arroyo Colorado Site: AC @ FM 2556
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: _ Wadeable ✓ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM2556
Date: 4/23/11 Time: 1541

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	43' 13.11m
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth 1.6 m

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: _____ Time: _____

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence	
☑ No trespass sign	☐ Barge/ship traffic	
☐ Wildlife	☐ Industrial	
☑ Steep slopes	☐ None of the Above	
☐ No public access	☑ Other: Thick Vegetation	
☐ No roads		

Comments: no fishing sign

6. Check any indications of human use (Attach photos).

☐ Roads	☐ RV/ATV Tracks	☐ NPDES Discharge	☐ Organized event
☐ Rope swings	☐ Camping Sites	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☐ Foot paths/prints	☑ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 2556
Date: 4/29/11 Time: 1541

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:
plastic

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#10

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Svarek, NRA
Date & Time: 4/23/2011 1609	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 491 SE. of Mercedes

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.8 ° C Water Temp 27.7 ° C

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	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	L&R Row crops	Other (specify): _____
_____ Mowed/maintained corridor	L 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):

tall vegetation, steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 4/23/11 Time: 1609

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☐ None ☐ 1-10 ☑ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☑ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☑ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
Steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
roads, trails

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

#10

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM491
Date: 4/23/11 Time: 1609

b. Check the number of individuals observed at the site.
☐ None ☐ 1-10 ☑ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☑ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☑ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☑ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

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 Arroyo Colorado Site: AC @ FM 491
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#10

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 4/23/11 Time: 1609

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	41' (12.5m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth 1.3 M

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 4/23/11 Time: 1609

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☑ Sitting
- ☐ Lying down/sleeping
- ☑ Playing on shoreline
- ☑ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: Fishing

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: Concrete dam type structure

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☑ Dams
- ☐ Other (specify):
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☑ Water control structure ?
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☑ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other:
- ☐ None of the Above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other:

Comments:

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☐ Other:
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☑ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments:

#10

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: AC @ FM 491
Date: 4-23-11 Time: 1609

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: tires, TV, plastic, cans, glass

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

#11

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Sugarek, NRA
Date & Time:	4/23/2011 17:16 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ Llano Grande RV Park

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 29.7 °C Water Temp ~~29.7~~ °C unable to get YSI measurements due to high vegetation along banks

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap	BA 4/23/11
L&R Shrub dominated corridor	_____ Pasture	_____ Concrete	
_____ Herbaceous marsh	R Row crops	Other (specify): levee ~~R~~ L	
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank		

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

levee & high vegetation on riverside

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 4/23/11 Time: 1716

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children ☐ Tubing ☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults ☐ Surfing
☐ Swimming ☐ Whitewater-kayaking, canoeing, rafting
☐ Water skiing ☐ Other: _____
☐ Diving ☐ frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: ☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☑ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
high vegetation

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
roads, RV 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?

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: _____

saw people across river fishing

#11

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV. Park
Date: 4/23/11 Time: 1716

b. Check the number of individuals observed at the site.
☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
high vegetation on L Bank

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).
The levee makes it difficult to access the water; stream banks are lined with thick vegetation.

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 Arroyo Colorado Site: Llano Grande RV Park
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#11

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande RV Park
Date: 4/23/11 Time: 1716

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	111m
2	
3	
4	
5	
6	
7	
8	
9	
10	

The laser range finder is now on the "fritz". We don't know how accurate the readings are. LPS

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: Llano Grande RV Park
Date: 4/23/11 Time: 1716

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☑ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: Fishing

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: ? levee

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify):
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☑ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☑ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☑ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☑ Other: RV park, levee
- ☐ None of the Above

Comments:

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☐ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☑ None of the Above
- ☐ Other:

Comments:

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other:
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☑ No Human Presence

Comments:

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Llano Grande
Date: 4/23/11 Time: 1716

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: plastic

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site #12

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Beth Almaraz, Sam Suggreck, NRA
Date & Time: 4/23/11 1755	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: Arroyo Colorado @ FM 1015 South of Weslaco	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.0 °C Water Temp 28.3 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

BA 4/23/11

L R Forest	_____ Urban	_____ Rip rap
_____ Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	B _____ 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):

bridge

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 1015 (13081)
Date: 4/23/11 Time: 1755

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☑ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
tall vegetation in areas

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge, road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? ND

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: _____

#12

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081
Date: 4/23/11 Time: 1755

b. Check the number of individuals observed at the site.
☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: 13081
Date: 4/23/2015 FDS Page 3 of 8 1755

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

#12

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081
Date: 4/23/2011 Time: 1755

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	114 (34.75m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

34.75m

depth - 1.5m

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: 13081
Date: 4/23/2011 Time: 1755

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☑ Sitting
- ☐ Lying down/sleeping
- ☑ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): _____
- ☐ Log jams
- ☑ Thick vegetation
- ☐ Rip rap
- ☑ Low bridges
- ☐ Water control structure
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☐ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☑ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: _____

#12

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 13081
Date: 4/23/2011 Time: 1755

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: plastic, cans, tires

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:__________

Observers:______________________________ Stream Width*:__________ Section Width (W):__________

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #13

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek & Beth Almaraz
Date & Time: 4/24/11 1623	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ Texas Blvd.

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.1 °C Water Temp 27.36 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☑ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

deeper water

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: @ Texas Blvd.
Date: 4/24/11 Time: 1623

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
depth - 1.3m

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
There is evidence that people drive down from the levee and park near the base of the 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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Texas Blvd.
Date: 4/24/11 Time: 1623

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

N/A

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: Texas Blvd.
Date: 4/29/11 FDS Page 3 of 8 1623

E. Stream Channel and Substantial Pool
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Texas Blvd.
Date: 4/24/11 Time: 1423

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

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____ } 3 not accessible

# Measurements	Width (meters)
1	(11.1 m)
2	
3	
4	
5	
6	
7	
8	
9	
10	

11.1 m

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: Texas Blvd.
Date: 4/24/11 Time: 1623

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: large pipeline crossing the steam

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): cement pillar			

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	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☑ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence
☐ 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	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☑ Foot paths/prints	☑ Fishing Tackle	☑ Remnant's of Kid's play	
☑ Other: graffiti			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Texas Blvd.
Date: 4/24/11 Time: ~~15~~ 1623

BA 4/24/11

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: plastic, cans, clothing, tires

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________________________

Observers:____________________ Stream Width*:__________ Section Width (W):__________

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site #14

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek & Beth Almaraz
Date & Time: 4/24/11 1448	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Arroyo Colorado @ FM 493 South of Donna

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 30.9 ° C Water Temp 27.53 ° C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	R&L Row crops	Other (specify): _____
_____ Mowed/maintained corridor	R&L 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):

very steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 493
Date: 4/24/11 Time: 1448

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
very steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge, road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? NO

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 493
Date: 4/24/11 Time: 1448

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
Very steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Very steep banks, deep water

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
Very steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 493
Date: 4/24/11 1448

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 493
Date: 4/24/14 Time: 1448

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	57' 17.37m
2	
3	
4	
5	
6	
7	
8	
9	
10	

depth - 1.3 m

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 493
Date: 4/24/11 Time: 1448

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☑ Other (specify): cement pillar
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☑ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☒ No Human Presence

BS 4/24/11

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 493
Date: 1/24/11 Time: 1448

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: plastic, tires

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:_______________________________________ Date:__________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:____________________

Observers:____________________ Stream Width*:__________ Section Width (W):__________

Observations:____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #15

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek & Beth Almaraz
Date & Time: 4/24/2011 1517	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	Valley View Rd.

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp _____ ° C Water Temp _____ ° C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap	
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete	
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____	
R&L Mowed/maintained corridor	_____ Denuded/Eroded bank		

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

_____

_____

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☐ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

drove levy - couldn't find site - no people seen in area

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 4/24/2011 Time: 1517

B. Primary Contact Water Recreation Evaluation:

- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?

☐ Yes ☐ ~~No~~ primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ frequent public swimming-created by publicly owned land or commercial operations
☐ No primary contact activities that commonly occur were observed

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.

☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

The levees are far from the River and bordered by fences

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).

levee Road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? no

C. Secondary Contact Water Recreation Evaluation:

- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☐ No secondary contact recreation activities were observed

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 4/24/2011 Time: 1517

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
The levees are far from the River and bordered by fencing

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, 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 Arroyo Colorado Site: Valley View Rd. 1517
Date: 4/24/2019 FDS Page 3 of 8

E. Stream Channel and Substantial Pools

Please check the following which best describes the river or stream: ☐ Wadeable ☐ Non-wadeable

1. Wadeable Streams

Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.

Photos #s (30 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 4/24/2011 Time: 1517

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

This "site" is where we drive the levee. Since the levee is quite far from the stream we were not able to get measurements or photos. DBJ

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 4/24/2014 Time: 1517

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☒ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☒ Yes ☐ No (If yes, please provide supporting documentation and photos.)
Comments: levee & fences

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): _____
- ☐ Log jams
- ☐ Thick vegetation
- ☒ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☒ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☐ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☒ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☒ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☒ No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: Valley View Rd.
Date: 4/24/2011 Time: 1517

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: plastic bag fragments in brush adjacent to stream

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:____ Date:____________

Site:____ Site

Description:____

Time Begin:__________ Time End:__________ Meter Type:____________________

Observers:____________________ Stream Width*:__________ Section Width (W):__________

Observations:____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #16

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information: Sam Sugarek, Beth Almaraz	
Date & Time: 4/24/11 1538	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: FM 907 South of Donna	

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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.

Water ~~Air~~ Temp BA 4/24/11 28.3 °C Air ~~Water~~ Temp 31.3 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	R&L Row crops	Other (specify): _____
_____ Mowed/maintained corridor	R&L 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): bridge, road, steep banks, tall vegetation

Marcas

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/24/11 Time: 538

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
steep banks, swift moving water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road, 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 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 BD 4/24/11 cast netting
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☑ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/27/11 Time: 1536

b. Check the number of individuals observed at the site.
☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☑ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☑ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).

steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/24/11 1538

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/24/11 Time: 1538

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ~~☐ Yes ☐ No~~ DBO
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	46' 14.02m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/24/11 Time: 1538

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: Cast reading

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): cement pillar

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 907
Date: 4/24/11 Time: 1538

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: plastic, cardboard, cans, bottles, tires

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

Site #17

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 4/24/11 1355	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	US 281 South of Pharr

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 31.3 °C Water Temp 26.87 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	R&L Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	R Row crops	Other (specify): _____
_____ Mowed/maintained corridor	_____ Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☑ Moderately easy ☐ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/24/11 Time: 1355

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
☑ Wading-Adults ☐ Surfing commonly occur were observed
☐ Swimming ☐ Whitewater-kayaking, canoeing, rafting
☐ Water skiing ☑ Other: getting water from river in containers for wetting dirt & rinsing arms
☐ Diving ☐ frequent public swimming-created by publicly owned land or commercial operations

BA 4/24/11

b. Check the number of individuals observed at the site: ☐ None ☑ 1-10 ☑ 11-20 ☑ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☑ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

hands dunked in water, wading kids

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge, road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☑ Yes ☐ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☑ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/24/11 & 4/24/11 Time: 1355

b. Check the number of individuals observed at the site.
☐ None ☐ 1-10 ☑ 11-20 ☑ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☑ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☑ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☑ Daily ☑ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: fishing

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.

15.8' from bridge to water surface
10 sec.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/24/11 1355

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable *

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

* The site has both wadeable and non-wadeable areas. DBS

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/29/11 Time: 1355

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ✓ Yes _ No 281
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____

not accessible

# Measurements	Width (meters)
1	14.63m
2	12.19 m
3	
4	
5	
6	
7	
8	
9	
10	

48' - 40'

14.63m - 12.19m
width

depth - 1.5

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/24/2011 Time: 1355

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☑ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☑ Standing
- ☑ Sitting
- ☐ Lying down/sleeping
- ☑ Playing on shoreline
- ☑ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☑ Other: rinsing

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: There is a shallow area where a riffle exists, just upstream is a deeper area and a 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
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☑ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☑ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other:_____
- ☐ None of the Above

Comments: people come to this location to picnic

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other:_____

Comments: high vegetation in areas

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments:

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: US 281
Date: 4/24/11 Time: 1355

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 BA 4/24/11	☒ 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: plastic, cans, tires

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:____ Date:______________

Site:____ Site

Description:____

Time Begin:____________ Time End:____________ Meter Type:________________________________

Observers:__________________________ Stream Width*:___________ Section Width (W):____________

Observations:____

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

Site #18

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek & Beth Almaraz
Date & Time: 4/24/14 1310	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	2061 SE of McAllen

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☑ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 32.1 °C Water Temp 27.5 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	R&L Row crops	Other (specify): _____
R&L Mowed/maintained corridor	R&L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation): steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: 4/24/11 Time: 1318

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children
☐ Wading-Adults
☐ Swimming
☐ Water skiing
☐ Diving
☐ Tubing
☐ Surfing
☐ Whitewater-kayaking, canoeing, rafting
☐ Other: _____
☐ 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: ☑ 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).
steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road, 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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: 4/24/11 Time: 1318

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft) dead fish on banks

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: _____ FDS Page 3 of 8 _____

E. Stream Channel and Substantial Pool
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: 4/24/11 Time: 1318

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: 4/24/14 Time: 1318

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☑ Other (specify): cement pillar
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☑ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☑ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☑ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: dead fish on banks, shotgun shells

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 2061
Date: 9/24/11 Time: 1318

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: cans, plastic, bottles, tires

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:__________

Observers:__________ Stream Width*:__________ Section Width (W):__________

Observations:______________________________

Section Midpoint (ft) (m)	**Section Depth (ft) (m) (cm) (D)**	**Observational Depth** (ft)(m)**	**Velocity (V)**		**Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)**
			At Point (ft/s)(m/s)	**Average (ft/s)(m/s)**	

#19

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time:	4/24/11 1250 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	FM 336 South of McAllen

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☐ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

✓ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

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 32.0 °C Water Temp 27.03 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
R&L Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	_____ Row crops	Other (specify): _____
R&L Mowed/maintained corridor	R&L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ✓ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ✓ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 336
Date: 4/24/11 Time: 1250

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 on ATV

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
steep bank, tall vegetation near banks except under bridge

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road, bridge, ATV trail

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 336
Date: 4/24/11 Time: 1250

b. Check the number of individuals observed at the site.
☐ None ☑ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50
1 ATV

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☑ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
steep banks except under bridge

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
steep banks, tall vegetation

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 Arroyo Colorado Site: 336
Date: _____ FDS Page 3 of 8

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: 336
Date: 4/24/11 Time: 1250

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	15m
2	
3	
4	
5	
6	
7	
8	
9	
10	

1.3 depth

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM336
Date: _____ Time: _____

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☑ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☐ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☐ Culverts
- ☐ Fences
- ☐ Log jams
- ☐ Rip rap
- ☐ Water control structure
- ☐ Barbed wire
- ☐ Dams
- ☐ Thick vegetation
- ☐ Low bridges
- ☐ None
- ☐ Utility pipe
- ☑ Other (specify): cement pillar

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☐ Urban/suburban location
- ☐ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☑ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: ~~concrete pillar~~ BA 4/24/11

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☑ Foot paths/prints
- ☑ Other: fish
- ☑ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☑ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: found 3 fish on shoreline - still alive

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 336
Date: _____ Time: _____

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: plastic, cans, glass
_____
_____

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:_____ Date:_____

Site:_____ Site

Description:_____

Time Begin:_____ Time End:_____ Meter Type:_____

Observers:_____ Stream Width*:_____ Section Width (W):_____

Observations:_____

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	

site 20

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek & Beth Almaraz
Date & Time:	4/24/11 1203 County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	FM 115 South of McAllen

At any point during the Basic RUAA Survey it becomes apparent that primary contact recreation is clearly the use for the water body the investigator should stop conducting the UAA.

A. Stream Characteristics:

1. Check the following channel flow status that applies.

☐ dry ☐ no flow ☐ low ☑ normal ☐ high ☐ flooded

2. Check the following stream type that applies on the day of the survey:

☐ Ephemeral: A stream which flows only during or immediately after a rainfall event, and contains no refuge pools capable of sustaining a viable community of aquatic organisms.

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent.

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second.

☐ Perennial: A stream which flows continuously throughout the year. Perennial streams have a 7Q2 equal to or greater than 0.1 cubic feet per second.

☐ Designated or unclassified tidal stream: A stream that is tidally influenced. If you checked this box, you will need to contact the Water Quality Standards Group and evaluate whether or not a bathing beach is located along the tidal stream and whether or not a bathing beach is located along the estuary, bay or Gulf water that the tidal stream flows into.

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. _____ cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 31 °C Water Temp 26.5 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	L Rip rap
_____ Shrub dominated corridor	_____ Pasture	L&R Concrete
_____ Herbaceous marsh	R Row crops	Other (specify): _____
R&L Mowed/maintained corridor	R&L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Polo 7.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site FM115
Date: 4/24/11 Time: 1213

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
bridge, road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 115
Date: 4/24/11 Time: 1213

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 115
Date: _____ FDS Page 3 of 8 _____

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ☐ Wadeable ☑ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 115
Date: 4/24/11 Time: 1213

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	15m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 115
Date: _____ Time: _____

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)	☐ Other: _____
☐ Playgrounds	☐ Boating access (ramps)	☐ Populated area	☐ None of the Above
☐ Rural area	☐ Beach	☐ Docks or rafts	
☐ Residential	☑ Bridge crossing	☐ Commercial outfitter	
☐ National forests	☐ Commercial boating	☐ Nearby school	
☐ Urban/suburban location	☐ Trails/paths (hiking/biking)	☐ Power Line Corridor	
☐ Golf Course	☐ Paved parking lot	☐ Parks (national/city/county/state)	
☐ 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	☐ Fence	
☑ 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	☐ Gates on corridor	☐ No Human Presence
☐ Dock/platform	☐ Fire pit/ring	☐ Children's toys	
☑ Foot paths/prints	☐ Fishing Tackle	☐ Remnant's of Kid's play	
☐ Other: _____			

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 115
Date: 4/24/11 Time: 1213

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: turtle 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

BA 4/24/11

Comments: horse

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: plastic, cans, bottles

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:______________________________ Date:__________

Site:______________________________ Site

Description:______________________________

Time Begin:__________ Time End:__________ Meter Type:______________________________

Observers:______________________ Stream Width*:__________ Section Width (W):__________

Observations:______________________________

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V) At Point (ft/s)(m/s)	Velocity (V) Average (ft/s)(m/s)	Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)

Site 21

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 4/24/2011 1109	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	FM 494 West of McAllen

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. 12.1 cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 29.8 °C Water Temp 26.73 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
R L Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): ____
R L Mowed/maintained corridor	R L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 494
Date: 4/24/2017 Time: 1109

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
shallow water, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road, 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 secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☑ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: FM 494
Date: 4/24/2011 Time: 1109

b. Check the number of individuals observed at the site.
☒ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
Shallow water, steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Shallow water, steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
Steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 494
Date: 4/24/10 FDS Page 3 of 8 1109

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ✓ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	
60 meters	
90 meters	
120 meters	
150 meters	
180 meters	
210 meters	
240 meters	
270 meters	
300 meters	
Average	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 494
Date: 4/24/20.. Time: 1109

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	
Width at narrowest point of the stream within 300 meter reach	
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	5.5m
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 494
Date: 4/24/2011 Time: 1109

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☑ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☒ None
- ☐ Other: _____

at golf course

BP 4/24/11

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: Bridge & etc culverts

3. Check any channel obstructions that apply (Attach photos).

- ☑ Culverts
- ☐ Barbed wire
- ☐ Utility pipe
- ☐ Fences
- ☐ Dams
- ☐ Other (specify): _____
- ☐ Log jams
- ☐ Thick vegetation
- ☐ Rip rap
- ☐ Low bridges
- ☐ Water control structure
- ☐ None

4. Check all surrounding conditions that promote recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Campgrounds
- ☐ Playgrounds
- ☐ Rural area
- ☐ Residential
- ☐ National forests
- ☑ Urban/suburban location
- ☑ Golf Course
- ☐ Sports Field
- ☐ Stairs/walkway
- ☐ Boating access (ramps)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑ Private Property
- ☑ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☑ NPDES Discharge
- ☑ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☐ No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 494
Date: 4/24/2011 Time: 1109

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: cans, plastic

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: Arroyo Colorado Date: 4/24/11

Site: 494 Site

Description:

Time Begin: 1131 Time End: 1155 Meter Type: SonTek

Observers: SS, BA Stream Width*: 18' Section Width (W): 0.9'

Observations:

Section Midpoint (ft)(m)	Section Depth (ft)(m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	
0.45'	0.55'			0.0'	0
1.35'	0.55'			0.1'	0.0495
2.25'	0.5'			0.68'	0.306
3.15'	0.5'			0.61'	0.2745
4.05'	0.45'			0.82'	0.3321
4.95'	0.75'			0.63'	0.42525
5.85'	0.8'			0.16'	0.1152
6.75'	0.8'			0.11'	0.0792
7.65'	0.9'		4/24/11 BA	~~0.11~~ 1.02'	0.0162
8.55'	0.9'			0.96'	0.7776
9.45'	1.0'			1.2'	1.08
10.35'	1.15'			1.2'	1.242
11.25'	1.05'			1.18'	1.1151
12.15'	1.15'			1.25'	1.29375
13.05'	1.3'			1.13'	1.3221
13.95'	1.25'			1.17'	1.31625
14.85	1.25'			0.85'	0.95625
15.75	~~15.75~~ 1.15			0.54'	0.5589
16.65	1.0'			0.59'	0531
17.55	0.85			0.39'	0.29835
					12.08985

BA 4/24/11

12.1 RBD

flow - ~~17.5~~ cfs

according to flowtracker

Site 22

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz, NRA
Date & Time: 4/24/2011 1014	County Name: Hidalgo
Stream Name: Arroyo Colorado	
Segment No. or nearest downstream Segment No.: 2202	
Description of Site: FM 1016 South of Mission	

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. 2.6 cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 27.8 °C Water Temp 25 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

____ Forest	____ Urban	____ Rip rap
R&L Shrub dominated corridor	____ Pasture	____ Concrete
____ Herbaceous marsh	____ Row crops	Other (specify): ____
R&L Mowed/maintained corridor	R&L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 1016
Date: 4/29/2011 Time: 1016

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed
a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children	☐ Tubing	☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults	☐ Surfing	
☐ Swimming	☐ Whitewater-kayaking, canoeing, rafting	
☐ Water skiing	☐ Other: _____	
☐ Diving	☐ frequent public swimming-created by publicly owned land or commercial operations	

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
steep banks, shallow water

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site?

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed
a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).
☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 1016
Date: 4/24/2011 Time: 1016

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
Steep banks, shallow water

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons:

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Steep banks, shallow water

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).

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 Arroyo Colorado Site: FM 1016
Date: 7/24/2011 FDS Page 3 of 8 1016

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ✓ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (300 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	0.8
60 meters	0.78
90 meters	0.82
120 meters	0.8
150 meters	0.82
180 meters	0.82
210 meters	0.77
240 meters	0.75
270 meters	0.7
300 meters	0.7
Average	0.776

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 1016
Date: 4/24/2024 Time: 1016

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	18' 5.49m
Width at narrowest point of the stream within 300 meter reach	17' 5.18 m
Width at the widest point of the stream within 300 meter reach	

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☐ Yes ☑ No
COMMENTS: Shallow

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 1016
Date: 4/24/2011 Time: 1016

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☑ Culverts
- ☐ 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)
- ☐ Beach
- ☑ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☑ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☑ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: dirt road beside river

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☐ Private Property
- ☐ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☐ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☐ NPDES Discharge
- ☐ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☑ No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: FM 1016
Date: 4/24/2021 Time: 1016

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 BD 4/23/21

Large garbage in the channel	☒ None	☑ Rare	☐ Common	☐ Abundant
Small garbage in the channel	☐ None	☑ Rare	☐ Common	☐ Abundant
Bank Garbage	☐ None	☐ Rare	☑ Common	☐ Abundant

Briefly describe the kinds of garbage observed: plastic, cans, styrofoam, bottles

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).
nature park
mission ~~trails park~~ down the street,

WWTP - 320m downstream from 1012

Field Data Sheet - Basic RUAA Survey

Stream Flow (Discharge) Measurement

Stream: Arroyo Colorado Date: 4/23/11

Site: 1016 Site

Description:

Time Begin: 1041 Time End: 1102 Meter Type: SonTek

Observers: SS, BA Stream Width*: 18' Section Width (W): 0.9

Observations:

Section Midpoint (ft)(m)	Section Depth (ft)(m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	
0.45'	0.55'			0.11'	0.05445
1.35'	0.7'			0.15'	0.0945
2.25'	0.75'			0.11'	0.07425
3.15'	0.75'			0.19'	0.12825
4.05'	0.80'			0.24'	0.1728
4.95'	0.80'			0.27'	0.1944
5.85'	0.80'			0.32'	0.2304
6.75'	0.7'			0.31'	0.1953
7.65'	0.7'			0.29'	0.1827
8.55'	0.7'			0.30'	0.189
9.45'	0.68'			0.27'	0.16524
10.35	0.72'			0.23'	0.14904
11.25	0.65'			0.29'	0.16965
12.15	0.65'			0.25'	0.14625
13.05	0.6'			0.29'	0.1566
~~14.95~~ 13.95	0.7'			~~0.09~~ 0.25' BA 4/24/11	0.1575
~~15.85~~ 14.85	0.65'			~~0.00~~ 0.25	0.14625
~~16.75~~ 15.75	0.6			~~0.06~~ 0	0
~~17.65~~ 16.65	0.45			0.06	0.0243
~~18.55~~ 17.55	0.3			0.0	0
				Q=	2.63 cfs

BA 4/24/11

2.63 DBP

flow - ~~2.35~~ cfs

according to Flowtracker

Site 23

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information:	Sam Sugarek, Beth Almaraz
Date & Time: 4/24/2011 853	County Name: Hidalgo
Stream Name:	Arroyo Colorado
Segment No. or nearest downstream Segment No.:	2202
Description of Site:	FM 2062 - segment boundary

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. 1.3 cfs

4. Water Quality Data (Field Parameters)

Field parameters should be collected in accordance with the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1.

Air Temp 25.8 °C Water Temp 25.0 °C

5. Riparian Zone (Mark dominant categories with L (Left Bank) and R (Right Bank). Bank orientation is determined by the investigator facing downstream.)

_____ Forest	_____ Urban	_____ Rip rap
L&R Shrub dominated corridor	_____ Pasture	_____ Concrete
_____ Herbaceous marsh	R Row crops	Other (specify): _____
_____ Mowed/maintained corridor	R&L Denuded/Eroded bank	

6. Ease of bank access to the water body: ☐ Easy ☐ Moderately easy ☑ Moderately difficult ☐ Difficult

7. Please describe access opportunities or explain why the site is not easily accessible (Attach photos for documentation):

Steep banks

8. Dominant Primary Substrate

☐ Cobble ☐ Sand ☐ Silt ☑ Mud/Clay ☐ Gravel ☐ Bedrock ☐ Rip rap ☐ Concrete

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 2062
Date: 4/24/2011 Time: 0853

B. Primary Contact Water Recreation Evaluation:
- Primary contact recreation draft definition: Water recreation activities, such as wading by children, swimming, water skiing, diving, tubing, surfing, and whitewater kayaking, canoeing, and rafting, involving a significant risk of ingestion of water.

1. Were water recreation activities that involve a significant risk of ingestion (full body immersion) observed at this site?
☐ Yes ☑ No primary contact recreation activities were observed

a. Check the following boxes of primary contact recreation activities observed at the time of the sampling event at the site (Attach photos of the activities or lack of activities).

☐ Wading-Children ☐ Tubing ☐ No primary contact activities that commonly occur were observed
☐ Wading-Adults ☐ Surfing
☐ Swimming ☐ Whitewater-kayaking, canoeing, rafting
☐ Water skiing ☐ Other: _____
☐ Diving ☐ frequent public swimming-created by publicly owned land or commercial operations

b. Check the number of individuals observed at the site: ☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Water in mouth or nose of the individual ☐ Primary touch: Individual's body (or portion) immersed in water
☐ Secondary touch: fishing, pets and related contact with water ☐ Individual is in a boat touching water
☐ Individual is on shore near water within 8 meters (25ft) of water ☐ Individual is well away from water between 8 and 30 meters (100 ft) ☐ Not applicable

2. If primary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of primary contact (depth, etc.) (Attach photos, etc. for documentation).
shallow water, steep banks

3. Describe if there is public access (e.g. parks, roads, etc.) (Attach photos, maps, etc. for documentation).
a road

4. Is an area with primary contact recreation activities or a bathing beach (e.g. state/local parks with swimming, etc.) located near (e.g. within 5 miles upstream and downstream) this site? no

C. Secondary Contact Water Recreation Evaluation:
- Secondary contact recreation 1: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion and that commonly occur.
- Secondary contact recreation 2: Water recreation activities, such as fishing, commercial and recreational boating, and limited body contact incidental to shoreline activity, not involving a significant risk of water ingestion but that occur less frequently than for secondary contact recreation 1 due to (1) physical characteristics of the water body and/or (2) limited public access.

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☑ No secondary contact recreation activities were observed

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

☐ Fishing
☐ Boating-commercial, recreational
☐ Non-whitewater-kayaking, rafting, canoeing
☐ No secondary contact recreation activities were observed
☐ Other secondary contact activities: _____

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 2062
Date: 4/24/2015 Time: 0853

b. Check the number of individuals observed at the site.
☑ None ☐ 1-10 ☐ 11-20 ☐ 20-50 ☐ greater than 50

c. Check the following that apply regarding the individuals proximity to the water body.
☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water
☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation).
Shallow water, steep banks

3. If secondary contact recreation activities are observed, how often do water recreational activities occur that do not involve a significant risk of water ingestion? ☐ frequently ☐ infrequently
Please describe how often the activities occur? ☐ Unknown ☐ Never ☐ Daily ☐ Monthly ☐ Yearly

4. If infrequently, what is the reason? ☐ physical characteristics of the water body ☐ limited public access ☐ other
If other, list reasons: _____

5. Describe the physical characteristics of the water body that hinders the frequency of secondary contact recreation (depth, etc.) (Attach photos or depth measurements, etc. for documentation).
Shallow water, steep banks

6. Describe why there is limited public access (e.g. lack of roads, river or stream banks overgrown, etc.) (Attach photos, maps, etc. for documentation).
Shallow water, steep banks

D. Noncontact Recreation Evaluation
Noncontact recreation applies to water bodies where recreation activities do not involve a significant risk of water ingestion, and where primary and secondary contact recreation uses do not occur because of unsafe conditions, such as barge traffic.

1. Provide site-specific information and documentation (including photographs) regarding unsafe conditions, recreation activities, and presence or absence of water recreation activities.

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 2062
Date: 4/24/2011 FDS Page 3 of 8 0853

E. Stream Channel and Substantial Pools
Please check the following which best describes the river or stream: ✓ Wadeable ☐ Non-wadeable

1. Wadeable Streams
Determine whether or not the average depth at the thalweg is greater than 0.5 meters and if there are substantial pools with a depth of 1 meter or greater. Walk an approximately 300 meter reach (total) at the site and take the following measurements within the 300 meter reach. Measurements should be taken during base flow conditions (sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather

Also, take photos facing upstream, downstream, left bank, and right bank at the 30 meters, 150 meters, and 300 meters.
Photos #s (30 meters) Upstream ✓ Downstream ✓ Left Bank ✓ Right Bank ✓
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

a) Substantial pools - Measure the length of each pool (if > 10 pools only measure 10 pools), the width (at the widest point), and the deepest depth. A substantial pool is considered a pool greater than 10 meters in length for the purposes of a Basic RUAA Survey. If depth and/or width measurements were not attainable, explain why.

	Length (meters)	Width (meters)	Depth (meters)
Pool 1			
Pool 2			
Pool 3			
Pool 4			
Pool 5			
Pool 6			
Pool 7			
Pool 8			
Pool 9			
Pool 10			

b)Average depth at the thalweg –Take depth measurements approximately every 30 meters to calculate an average depth at the thalweg (at least 10 measurements needed). If depth and/or width measurements were not attainable, explain why.

Distance	Depth (meters)
30 meters	1.1'
60 meters	1.1'
90 meters	1.0'
120 meters	1.1'
150 meters	0.9'
180 meters	0.9'
210 meters	1.1'
240 meters	1.0'
270 meters	0.8'
300 meters	0.75'
Average	.975

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 2062
Date: 4/24/2010 Time: 0857

c) Stream width - Measure (1) the width at one point which represents the typical average width of the 300 meter reach; (2) the width at the narrowest point of the stream within the 300 meter reach; and (3) the width at the widest point of the stream within the 300 meter reach.

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	18' 5.49m
Width at narrowest point of the stream within 300 meter reach	17' 5.18m
Width at the widest point of the stream within 300 meter reach	18.3' 5.58m

d) Is there sufficient water within a 300 meter stream reach during base flow conditions to support primary contact recreation? ☑ Yes ☐ No
COMMENTS:

2. Non-wadeable Streams
If accessible, take 10 width measurements which represent typical widths of the 300 meter reach. If the water is too deep and not accessible record the estimated average width of the water body.

Also, take photos facing upstream, downstream, left bank, and right bank at .
Photos #s (30 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (150 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____
Photos #s (300 meters) Upstream____ Downstream____ Left Bank ____ Right Bank____

# Measurements	Width (meters)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Field Data Sheets – Basic RUAA Survey

Stream Name Arroyo Colorado Site: FM 2062
Date: 4/29/2011 Time: 0853

F. Additional RUAA Information

1. Check the following activities observed over the site reach.

- ☐ Drinking or water in mouth
- ☐ Bathing
- ☐ Walking
- ☐ Jogging/running
- ☐ Bicycling
- ☐ Standing
- ☐ Sitting
- ☐ Lying down/sleeping
- ☐ Playing on shoreline
- ☐ Picnicking
- ☐ Motorcycle/ATV
- ☐ Hunting/Trapping
- ☐ Wildlife watching
- ☑ None
- ☐ Other: _____

2. Are there permanent or long-term hydrologic modifications that are constructed and operated in a way that affects the recreational uses? ☐ Yes ☑ No (If yes, please provide supporting documentation and photos.)
Comments: _____

3. Check any channel obstructions that apply (Attach photos).

- ☑ Culverts
- ☐ 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)
- ☐ Beach
- ☐ Bridge crossing
- ☐ Commercial boating
- ☐ Trails/paths (hiking/biking)
- ☐ Paved parking lot
- ☐ Unimproved parking lot
- ☐ Roads (paved/unpaved)
- ☐ Populated area
- ☐ Docks or rafts
- ☐ Commercial outfitter
- ☐ Nearby school
- ☐ Power Line Corridor
- ☐ Parks (national/city/county/state)
- ☐ Public Property
- ☐ Other: _____
- ☐ None of the Above

Comments: _____

5. Check all surrounding conditions that impede recreational activities (Attach photos of evidence or unusual items of interest).

- ☑ Private Property
- ☑ No trespass sign
- ☐ Wildlife
- ☑ Steep slopes
- ☐ No public access
- ☐ No roads
- ☐ Fence
- ☐ Barge/ship traffic
- ☐ Industrial
- ☐ None of the Above
- ☐ Other: _____

Comments: _____

6. Check any indications of human use (Attach photos).

- ☑ Roads
- ☐ Rope swings
- ☐ Dock/platform
- ☐ Foot paths/prints
- ☐ Other: _____
- ☐ RV/ATV Tracks
- ☐ Camping Sites
- ☐ Fire pit/ring
- ☐ Fishing Tackle
- ☑ NPDES Discharge
- ☑ Gates on corridor
- ☐ Children's toys
- ☐ Remnant's of Kid's play
- ☐ Organized event
- ☑ No Human Presence

Comments: _____

Field Data Sheets – Basic RUAA Survey

Stream Name: Arroyo Colorado Site: FM 2062
Date: 4/24/2011 Time: 0853

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: Frogs on bank & 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: paper, plastic, cans

12. Is the site located in a wildlife preserve with large wildlife (i.e waterfowl) population? Yes ✓No

13. Please document any other relevant information regarding recreational activities and the water body in general (for example, area outside of the stream reach evaluated).

Field Data Sheet - Basic RUAA Survey

Stream Flow (Discharge) Measurement

Stream: Arroyo Colorado Date: 4/24/2011

Site: FM 2062 Site

Description:

Time Begin: 0907 Time End: 0939 Meter Type: SonTek ADOP

Observers: SS, BA Stream Width*: 14' Section Width (W): ~~0.28~~ 0.7' BA 4/24/11

Observations:

Section Midpoint (ft) (m)	Section Depth (ft) (m) (cm) (D)	Observational Depth** (ft)(m)	Velocity (V)		Flow (Q) (m^3/s) (ft^3/s) Q = (W)(D)(V)
			At Point (ft/s)(m/s)	Average (ft/s)(m/s)	
~~0.14~~ 0.35'	0.7'			0'	0
1.05'	0.85'			-.03'	-0.01785
1.75'	0.9'			-.01'	-0.0063
2.45'	0.95'			0.12'	0.0798
3.15'	1.05'			0.08'	0.0588
3.85'	1.05'			0.16'	0.1176
4.55'	1.05'			0.10'	0.0735
5.25'	1.1'			0.14'	0.1078
5.95'	1.1'			0.15'	0.1155
6.65'	1.1'			0.15'	0.1155
7.35'	1.15'			0.14'	0.1127
8.05'	1.05'			0.16'	0.1176
8.75'	1.0'			0.19'	0.133
9.45'	1.0'			0.16'	0.112
10.15'	0.95'			0.17'	0.11305
10.85'	0.95'			0.08'/s	0.0532
11.55'	0.95'			0.01'/s	0.00665
12.25'	0.78'			0.08'/s	0.04368
12.95'	0.75'			0.0'/s	0
13.65'	0.55'			0.0'/s	0
					1.336 cfs = Q

4/24/11

LB 2' vegetation in water (0 & - flow)

flow = 1.3'/s

according to flow tracker

Site # 10

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 491

Interviewer's Name: Beth Almaraz
Date & Time (include AM or PM): 05/30/2010 16:10
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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Simon Nilo Daytime phone number: 956 373 7529
Mailing address: Box 868 Mercedes TX 78570
Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)
fishing

_____

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 20
   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:
pretty much whole stream

_____

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 7Q2equal 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.

#10

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: _____

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
used to catch lots of fish, not anymore

Site # 10

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491

Interviewer's Name: Beth Almaraz

Date & Time (include AM or PM): 16:06 5/30/2010

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Carlos Rodriguez Daytime phone number:

Mailing address: rather not give out info

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 22

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:

491, but just started fishing here

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 491

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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
has seen lots of snakes, so he would not get in water

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491

Interviewer's Name: B. Almaraz

Date & Time (include AM or PM): 1600 5/30/2010

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Jose Martinez Daytime phone number: 956-223-3220

Mailing address: 1801 Calle Amistad, San Juan 78589

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

fishing ~~by~~ by Arroyo Colorado

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:

none, first fishing experience here

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 491

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
wheres the fish?

BA 5/30/10

Comprehensive RUAA Interview Form

Stream Name: AC @ FM 509 Segment #: 2202 Site: 13074

Interviewer's Name: Beth Almaraz
Date & Time (include AM or PM): ~~1:20pm~~ 11:45 5/30/2010
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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Ramiro Barron Daytime phone number: 956-742-1006
Mailing address: 2414 Kerr St. Harlingen 78550
Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)
fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 2years
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: usually in a boat in Arroyo City, or at bridge crossings

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 13074

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 ☐ Wading-Adults
☐ Tubing ☑ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☑ Boating ☐ Canoeing ☐ Wading-Children

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☑ Boating ☐ Canoeing ☐ Wading-Children

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☑ Boating ☐ Canoeing ☐ Wading-Children

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

site # 6

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: _____

Interviewer's Name: B. Almaraz

Date & Time (include AM or PM): 1405 5/30/2010

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Tom De Leon Daytime phone number: (956) 622-8885

Mailing address: 27730 S. White Ranch Rd

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

lives down road from river

_____

_____

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 43
   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:

whole body of water

_____

_____

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 7Q2equal 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

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: _____

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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☐ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

bait w/ cast net from bridge or bank

7. Have you observed others using this stream for recreation? ☐ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☐ Wading-Adults
☐ Tubing ☑ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

9. Have you heard about anyone using this stream for recreation? ☐ Yes ☑ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☐ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 1015, 13081

Interviewer's Name: Beth Almaraz
Date & Time (include AM or PM): 05/30/2010 18:00
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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Jose Luis Martinez Daytime phone number: 956-376-7019
Mailing address: PO Box 343 Progreso, TX 78579
Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)
casting for bait

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 25 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:
1015 bridge

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: _____ Segment #: _____ Site: 3081

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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☐ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

casting for bait for fishing

7. Have you observed others using this stream for recreation? ☐ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

casting for bait

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

1015 bridge

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13074 #1

Interviewer's Name: ~~Tomas Garza~~ Beth Almaraz

Date & Time (include AM or PM): 10:55 am 4/23/2011

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Thomas Garza Daytime phone number:

Mailing address: Weslaco

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 10+

   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:

   13074

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13074

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☐ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☐ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13080 #8

Interviewer's Name: #1 Beth Almaraz

Date & Time (include AM or PM): 1518 4/23/2011

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Victor Guzman Daytime phone number: 956-797-1982

Mailing address: 11240 Calle de Limite La Feria

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

Fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 20 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:
   13080

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13080

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

swims only if lines get caught

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

year round, site 13080

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
he got in water about month ½ ago to detangle a line & got a horrible rash, also comes & weed eats to make a path so they can fish

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13080 #8

Interviewer's Name: BA 4/23/11 ~~Pedro Hernandez~~ Sam Sugarek

Date & Time (include AM or PM): 1518 04/23/2011

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Pedro Hernandez Daytime phone number: 742-7584

Mailing address:

Interviewee selected because (e.g., house adjacent to stream; standjng by stream, etc.)

fishing at site

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:

Fish Poso Real & Cemetery, and site #7

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 13080

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	☐ Wading-Adults
☐ Tubing	☑ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☐ Fishing	☐ Boating	☑ Canoeing	☑ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☑ Wading-Adults
☑ Tubing	☐ Kayaking	☑ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☑ Boating	☑ Canoeing	☑ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☑ Wading-Adults
☐ Tubing	☐ Kayaking	☑ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☐ Fishing	☑ Boating	☐ Canoeing	☑ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☑ Yes ☐ No
If yes, list person's contact information: Juan Castillo (956) 200 4997

12. Additional comments (from the interviewee or interviewer):

4

16444

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491 #10

Interviewer's Name: SS & BA

Date & Time (include AM or PM): 1630 04/23/2014

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Joseph Trevino Daytime phone number: 984-784-0271

Mailing address: Donna, TX

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

Fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 10+

   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:

491

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
putting fishing line in mouth to cut line - observation by interviewers,
Joseph sees kids wading (just last week) in water

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491 Site #10

Interviewer's Name: Guadalupe Fuentes BA, SS

Date & Time (include AM or PM): 04/23/2011

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: _____ Daytime phone number: 956-684 5144

Mailing address: Weslaco

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

fishing with his 2 sons (2 & 4 years old)

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 20+

   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: 491, 281

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 7Q2equal 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.

#10

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2002 Site: 491

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

11. Can you recommend someone else we could contact that knows the stream? ☑ Yes ☐ No
If yes, list person's contact information: 956-272-7028 - Juan ~~EB~~ Nilo
956-373-7529 Simon Nilo

12. Additional comments (from the interviewee or interviewer):
he & his family go to site at 281 and picnic & kids wade in water

#10, 16444

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 491

Interviewer's Name: BA & SS 6:45 04/23/2011

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Santos Cardenas Daytime phone number: 956 702-7843

Mailing address: Alamo

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

fishing

Questions:

1. Are you familiar with this stream? ☑ Yes ☐ No If yes, how many years? 25+

   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: all up & down - grew up here

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2207 Site: 491 #10

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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

gets in water if line gets stuck

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☑ Wading-Children	

gets in if line is caught

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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	☐ Wading-Adults
☐ Tubing	☐ Kayaking	☐ Rafting	☐ Trapping	☐ SCUBA diving	
☐ Snorkeling	☑ Fishing	☐ Boating	☐ Canoeing	☐ Wading-Children	

site @ 491 & 281

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

#11

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: Hano Grande RV Park

Interviewer's Name: BA & SS

Date & Time (include AM or PM): 9/23/2011 17:25

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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Diane Blanchett Daytime phone number: BB 9/23/11

Mailing address:

Interviewee selected because (e.g., house adjacent to stream; standing by stream, etc.)

Winter Texan, has ~~mobil~~ travel trailer ~~her~~ in RV park next to Arroyo

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: Llano Grande RV park

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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☐ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

walk the levee next to Arroyo

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☐ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):

Comprehensive RUAA Interview Form

#17

Stream Name: Arroyo Colorado Segment #: 2202 Site: 281

Interviewer's Name: BA, SS
Date & Time (include AM or PM): 1417
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. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Jose Serrato Daytime phone number: —
Mailing address: Pharr
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? 16+
   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: 281

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 7Q2equal 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.

Comprehensive RUAA Interview Form

Stream Name: Arroyo Colorado Segment #: 2202 Site: 281

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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☑ Wading-Children

people putting nets in water

7. Have you observed others using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #8. If no, proceed to #9.

8. What kinds of uses have you witnessed? When did you witness these uses occurring (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 ☑ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☑ Wading-Children

people putting nets in water

9. Have you heard about anyone using this stream for recreation? ☑ Yes ☐ No
If yes, proceed to #10. If no, conclude the interview.

10. What kind of uses have you heard about? When did you hear that 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 ☐ Wading-Adults
☐ Tubing ☐ Kayaking ☐ Rafting ☐ Trapping ☐ SCUBA diving
☐ Snorkeling ☑ Fishing ☐ Boating ☐ Canoeing ☐ Wading-Children

if line is caught, putting nets
~~peop~~ 281, weekends, year round

11. Can you recommend someone else we could contact that knows the stream? ☐ Yes ☑ No
If yes, list person's contact information: _____

12. Additional comments (from the interviewee or interviewer):
people fish here frequently

Site # 1, 13074 Cemetery Rd Bridge	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #2, 16446 FM509	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #3, 13077 Loop 499 Bridge	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #4, 13079 US 77 in SW Harlingen	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #5, Montana Dr. in Rangerville	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site 6, 16445 Dilworth Rd.	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #7, FM 800

Upstream

Downstream May, 2010

Bridge out

Bridge out, April, 2011

Site #8, 13080 FM 506 South of La Feria

Upstream

Downstream May, 2010

Upstream

Downstream April, 2011

Site #9, FM 2556	
Upstream	Downstream, May 2010
Upstream	Downstream, April 2011

Site #10, 16444 FM 491 SE of Mercedes	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #11, Llano Grande RV Park	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #12, 13081 FM 1015 South of Weslaco	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

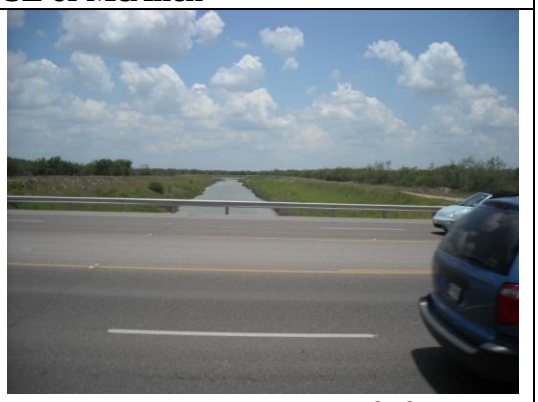
Site #13, Texas Blvd. South of Weslaco	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #14, 13082 FM 493 South of Donna	
Right Bank	Downstream May, 2010
Upstream	Downstream April, 2011

Site #15, Valley View Rd. South of Val Verde	
Upstream	Downstream May, 2010

Site #16, 13083 FM 907 South of Alamo	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #17, 13084 US281 South of Pharr	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #18, 13085 @ 2061 SE of McAllen	
Upstream	 Downstream May, 2010
Upstream	Downstream April, 2011

Site #19, 13086 FM 336 South of McAllen	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #20, 13087 FM 115 South of McAllen	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #21, 13088 FM 494 West of McAllen	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #22, 13089 FM 1016 South of Mission	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #23,17644 FM 2062	
Upstream	Downstream May, 2010
Upstream	Downstream April, 2011

Site #1, 13074 Cemetery Road Bridge

Unpaved road to site

Driving and hiking trails

Recreation evidence next to river May 2010

Fishing April 2011

Fishing from bank on trails beside river April 2011

Had been wading in water April 2011

Site #2, 16446 FM 509	
Fishing May 2010	Unpaved road for access to site

Site #3, 13077 Loop 499 Bridge	
Unpaved for access road to site	Access point to river

Site #8, 13080 FM 506 South of La Feria	
Fishing April 2011	Drying out socks

Site #10, 16444 FM 491 SE of Mercedes	
Recreation evidence next to river	Tire tracks under bridge
Fishing May 2010	Fishing April 2011
Fishing April 2011	Fishing April 2011

Site #17, US 281 South of Pharr	
Kids getting water in jug April 2011	Kids walking on rocks April 2011
Family across river April 2011	Kids playing in water April 2011