

Field Data Sheets

Field Data Sheets – Basic RUAA Survey

(should be completed for each site)

Data Collectors & Contact Information: Jeff Stroebel, Joseph Jackson, Georgiana Hudson

Date & Time: 18 July 2012 1045 CST County Name: Frio

Stream Name: Leona

Segment No. or nearest downstream Segment No.: 2109

Description of Site: AU 01-04

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

A. Stream Characteristics:

1. Check the following channel flow status that applies.

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

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

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

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

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

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

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

3. Streamflow

Use USGS gage data (if a gage is located at a site or within a quarter mile of a site) or use the Stream Flow (Discharge) Measurement Form and follow the procedures outlined in the most recent TCEQ Surface Water Quality Monitoring Procedures, Volume 1, RG-415. If USGS gage data is used for a site, include that information as an attachment and list the streamflow on the sampling date below. If the stream flow taken at one site is representative of the flow at another site(s), then that flow can be used as the observed flow and should be documented below. If the stream flow measured at one site is different from another site, then stream flow should be taken at both sites. 0 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 NA° 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	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): private property, barb wire fence, steep slope

8. Dominant Primary Substrate

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Leona Site: AU 01-04
Date: 18 July 2012 Time: 1045 CST

B. Primary Contact Water Recreation Evaluation:

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

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

☐ Yes ☒ No primary contact recreation activities were observed

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

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

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

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

C. Secondary Contact Water Recreation Evaluation:

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

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

1. Were water recreation activities observed at the site, but the nature of the recreation does not involve a significant risk of ingestion (e.g. secondary contact recreation activities)? ☐ Yes ☒ No secondary contact recreation activities were observed

a. Check the following boxes of secondary contact recreation activities that were observed at the time of the sampling event at the site (Attach photos of activities or lack of activities).

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

Field Data Sheets – Basic RUAA Survey

Stream Name: Leona Site: AU 01-04

Date: 18 July 2012 Time: 1045 CST

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

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

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

☐ Secondary touch: fishing, pets and related contact with water ☐ In a boat touching water

☐ Body on shore near water within 8 meters (25ft) of water ☐ Body well away from water between 8 and 30 meters (100 ft)

2. If secondary contact recreation activities are not observed, describe the physical characteristics of the water body that may hinder the frequency of secondary contact (Attach photos, etc. for documentation). no 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: private property, barb wire fence, thick vegetation and log jams instream, steep slopes

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

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: Leona Site: AU 01-04
Date: 18 July 2012 Time: 1045 CST

E. Stream Channel and Substantial Pools Measurements

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

1. Wadeable Streams

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

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

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

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

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

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)
0 meters	0
30 meters	0
60 meters	0
90 meters	0
120 meters	0
150 meters	0
180 meters	0
210 meters	0
240 meters	0
270 meters	0
300 meters	0
Average	0

Field Data Sheets – Basic RUAA Survey

Stream Name: Leona Site: AU 01-04
Date: 18 July 2012 Time: 1045 CST

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

Measurement Type	Width (meters)
Typical Average Width of 300 meter reach	0
Width at narrowest point of the stream within 300 meter reach	0
Width at the widest point of the stream within 300 meter reach	0

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	
11	

Field Data Sheets – Basic RUAA Survey

Stream Name: Leona Site: AU 01-04
Date: 18 July 2012 Time: 1045 CST

F. Additional RUAA Information

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

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

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

Comments:

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

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

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

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

Comments:

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

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

Comments:

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

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

Comments:

Field Data Sheets – Basic RUAA Survey

Stream Name: Leona Site: AU 01-04
Date: 18 July 2012 Time: 1045 CST

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: Feral hogs were observed on the bank at the point of entry to the stream

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). most of stream kept fenced from livestock

Stream Flow (Discharge) Measurement

[illegible]

Comprehensive RUAA Interview Form

Comprehensive RUAA Interview Form

Stream Name: Segment #: Site:

Interviewer's Name:

Date & Time (include AM or PM):

Interviewed: ☐ In person ☐ By phone ☐ By mail

☐ No interviews were conducted

If no interviews were conducted, please provide an explanation:

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

If yes, complete contact information for the interviewee below. Do not collect name or contact information if interviewee is a minor. The contact information portion is not required if the interviewee does not want to provide this information.

Legal name: Daytime phone number:

Mailing address:

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

Questions:

1. Are you familiar with this stream? ☐ Yes ☐ No If yes, how many years?
If yes, proceed to #2. If no, stop here and do not conduct an interview.

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

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

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

☐ Intermittent: A stream which has a period of zero flow for at least one week during most years. Where flow records are available, a stream with a 7Q2 flow of less than 0.1 cubic feet per second is considered intermittent. (Channel contains flowing water for only a portion of the year and surface water may be absent at times.)

☐ Intermittent w/ perennial pools: An intermittent stream which maintains persistent pools even when flow in the stream is less than 0.1 cubic feet per second. (When not flowing, the water may remain in isolated pools.)

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

4. Have you or your family personally used the stream for recreation? ☐ Yes ☐ No
If yes, proceed to #6. If no, proceed to #5.

5(a). List reasons stream not used.

5(b). Proceed to #7.

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)?

- | | | | | | |
|-------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|--|--|
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Skin Diving | <input type="checkbox"/> Water Skiing | <input type="checkbox"/> Wind surfing | <input type="checkbox"/> Hunting | <input type="checkbox"/> Wading-Adults |
| <input type="checkbox"/> Tubing | <input type="checkbox"/> Kayaking | <input type="checkbox"/> Rafting | <input type="checkbox"/> Trapping | <input type="checkbox"/> SCUBA diving | |
| <input type="checkbox"/> Snorkeling | <input type="checkbox"/> Fishing | <input type="checkbox"/> Boating | <input type="checkbox"/> Canoeing | <input type="checkbox"/> 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)?

- | | | | | | |
|-------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|--|--|
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Skin Diving | <input type="checkbox"/> Water Skiing | <input type="checkbox"/> Wind surfing | <input type="checkbox"/> Hunting | <input type="checkbox"/> Wading-Adults |
| <input type="checkbox"/> Tubing | <input type="checkbox"/> Kayaking | <input type="checkbox"/> Rafting | <input type="checkbox"/> Trapping | <input type="checkbox"/> SCUBA diving | |
| <input type="checkbox"/> Snorkeling | <input type="checkbox"/> Fishing | <input type="checkbox"/> Boating | <input type="checkbox"/> Canoeing | <input type="checkbox"/> 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)?

- | | | | | | |
|-------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|--|--|
| <input type="checkbox"/> Swimming | <input type="checkbox"/> Skin Diving | <input type="checkbox"/> Water Skiing | <input type="checkbox"/> Wind surfing | <input type="checkbox"/> Hunting | <input type="checkbox"/> Wading-Adults |
| <input type="checkbox"/> Tubing | <input type="checkbox"/> Kayaking | <input type="checkbox"/> Rafting | <input type="checkbox"/> Trapping | <input type="checkbox"/> SCUBA diving | |
| <input type="checkbox"/> Snorkeling | <input type="checkbox"/> Fishing | <input type="checkbox"/> Boating | <input type="checkbox"/> Canoeing | <input type="checkbox"/> 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):

RUAA Summary Sheet

RUAA Summary
(Not part of the Field Data Sheet)

This form should be filled out after RUAA data collection is completed. Use the Contact Information Form, Field Data Sheets from all sites, Historical Information Review, and other relevant information to answer the following questions on the water body.

Name of water body:

Segment No. or Nearest Downstream Segment No.:

Classified?:

County:

1. Observations on Use

a. Do primary contact recreation activities occur on the water body?

☐ frequently ☐ seldom ☐ not observed or reported ☐ unknown

b. Do secondary contact recreation 1 activities occur on the water body?

☐ frequently ☐ seldom ☐ not observed or reported ☐ unknown

c. Do secondary contact recreation 2 activities occur on the water body?

☐ frequently ☐ seldom ☐ not observed or reported ☐ unknown

d. Do noncontact recreation activities occur on the water body?

☐ frequently ☐ seldom ☐ not observed or reported ☐ unknown

2. Physical Characteristics of Water Body

a. What is the average thalweg depth? meters

b. Are there substantial pools deeper than 1 meter? ☐ yes ☐ no

c. What is the general level of public access?

☐ easy ☐ moderate ☐ very limited

3. Hydrological Conditions (Based on Palmer Drought Severity Index)

☐ Mild-Extreme Drought ☐ Incipient dry spell ☐ Near Normal

☐ Incipient wet spell ☐ Mild-Extreme Wet