



*Tarleton State University*  
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# Sweetwater Creek

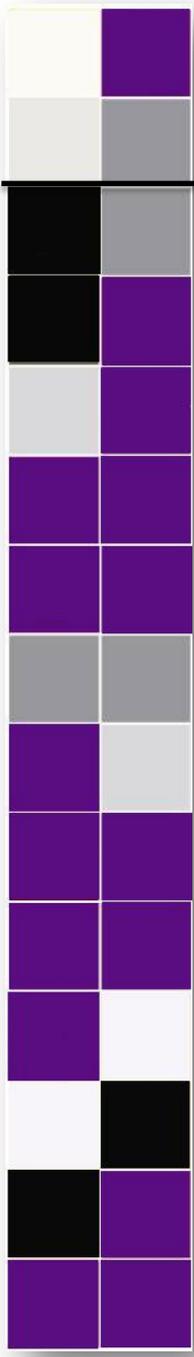
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## Recreational Use Attainability Analysis Summary of Findings (First Survey Event)

Texas Institute for Applied Environmental Research  
Stephenville, Texas

July 22, 2013



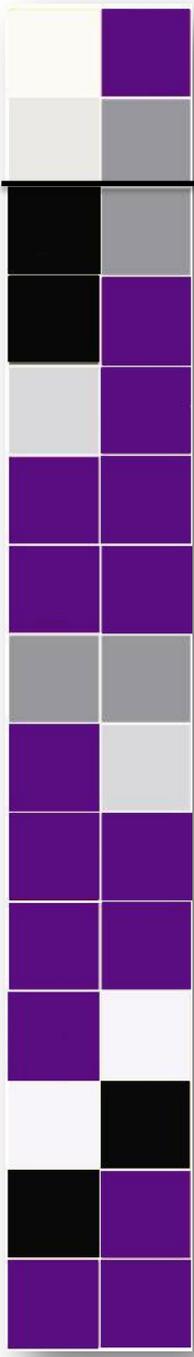


# Why are we here?

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- Sweetwater Creek listed as impaired
  - 2000 Texas Water Quality 303(d) List
  - Impaired for primary recreation
  - Based on elevated levels of bacteria



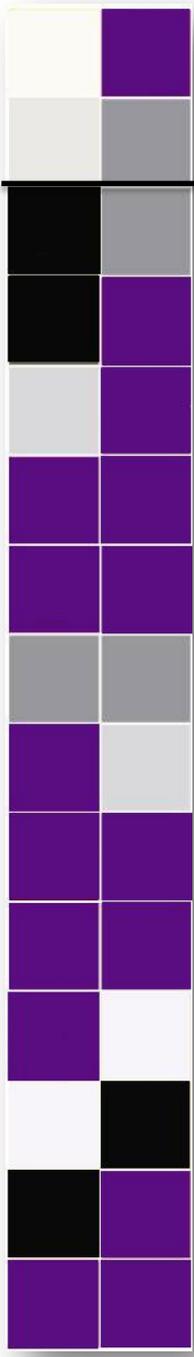


# Why are we here?

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- One potential way to get Sweetwater Creek off the impaired list
  - Assess recreational use, via a recreational use attainability analysis (RUAA)
  - Primary recreation is assumed



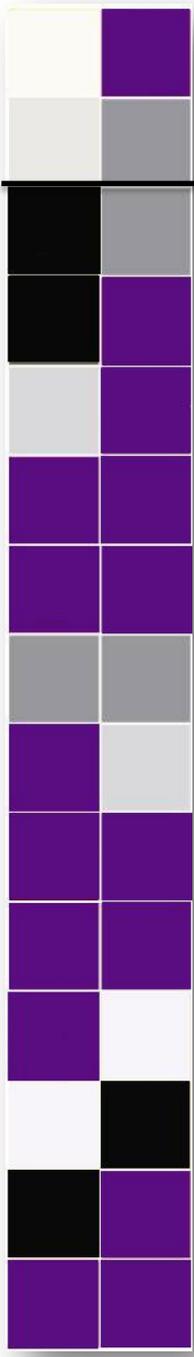


# Purpose of RUAA

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- Collect information that will:
  1. Confirm or deny primary contact recreation
  2. Provide evidence to support a change in recreational use category of Sweetwater Creek
- Recreational Use Categories:
  1. Primary Contact Recreation
  2. Secondary Contact Recreation 1
  3. Secondary Contact Recreation 2
  4. Noncontact Recreation



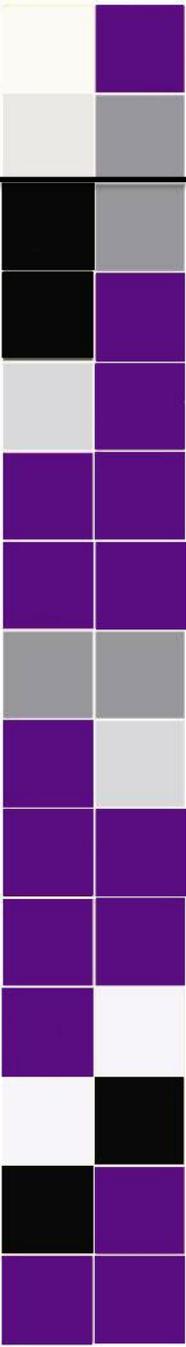


# Components of a RUAA

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- **Field Surveys** – to document current stream conditions and uses
- **Historical Information Review** – to document past recreational uses
- **Interviews** – to obtain feedback from stakeholders on current and past recreational uses of Sweetwater Creek



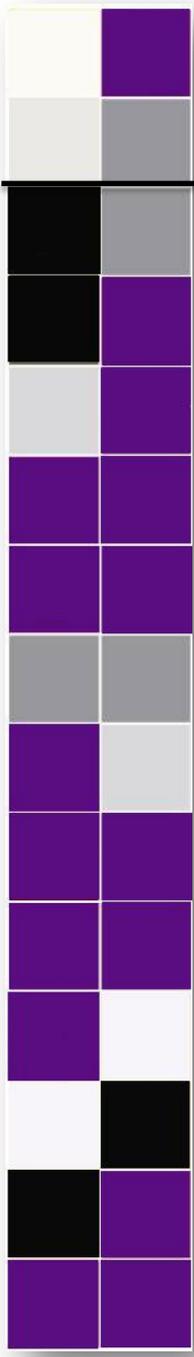


# Field Surveys

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- Components:
  - Goal: 3 sites for every 5 miles
  - At each site:
    - 300 meter reach traversed
  - Document
    - Stream characteristics that may promote or hinder recreational use
    - Observations of direct use or signs of recreational use
    - Interviews with individuals



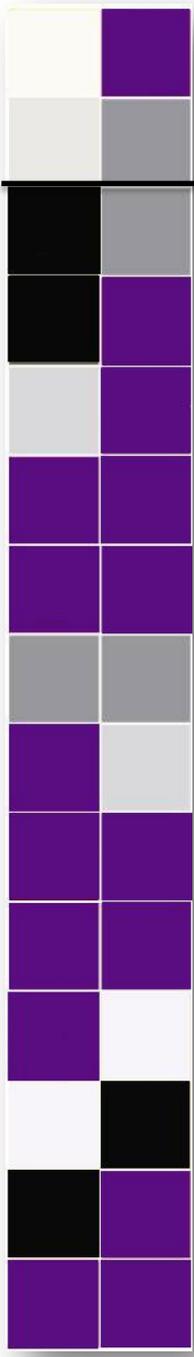


# Field Data Sheet Information

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- Streamflow and stream type
- Riparian zone, ease of bank access, dominant substrate
- Stream channel and pool measurements
- Types of recreation observed or signs of recreation
- Factors that may promote or impede recreation



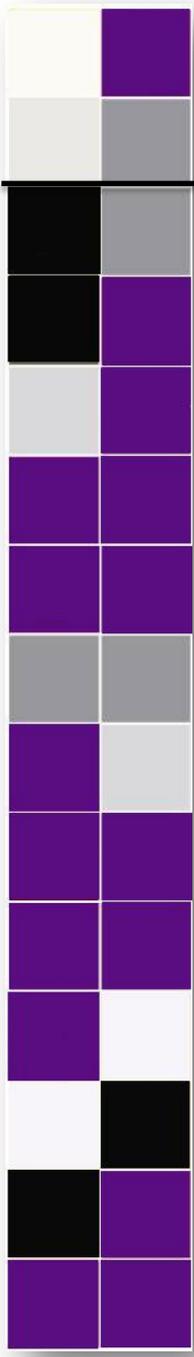


# Field Surveys

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- Complete field data sheet
- Photograph stream conditions
  - Transects - upstream, downstream, left bank, and right bank
  - Evidence of human use
- Interview stakeholders present at time of survey





# Sampling Conditions for Surveys

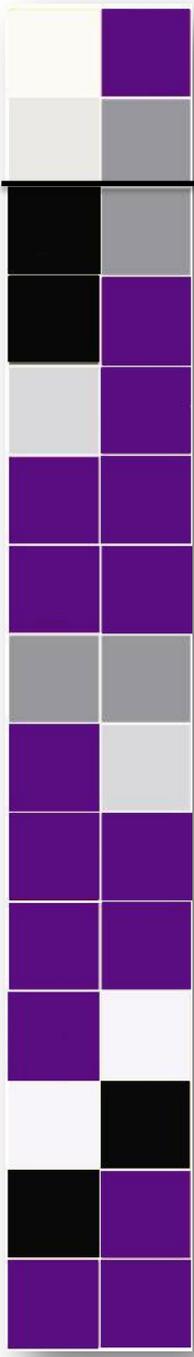
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1. Air temperature over 70° F
2. Sustained or typical dry, warm-weather streamflow
3. Performed when use is likely (Spring Break, Weekends, Holidays & Summer)



Any Questions on RUAA  
Background?





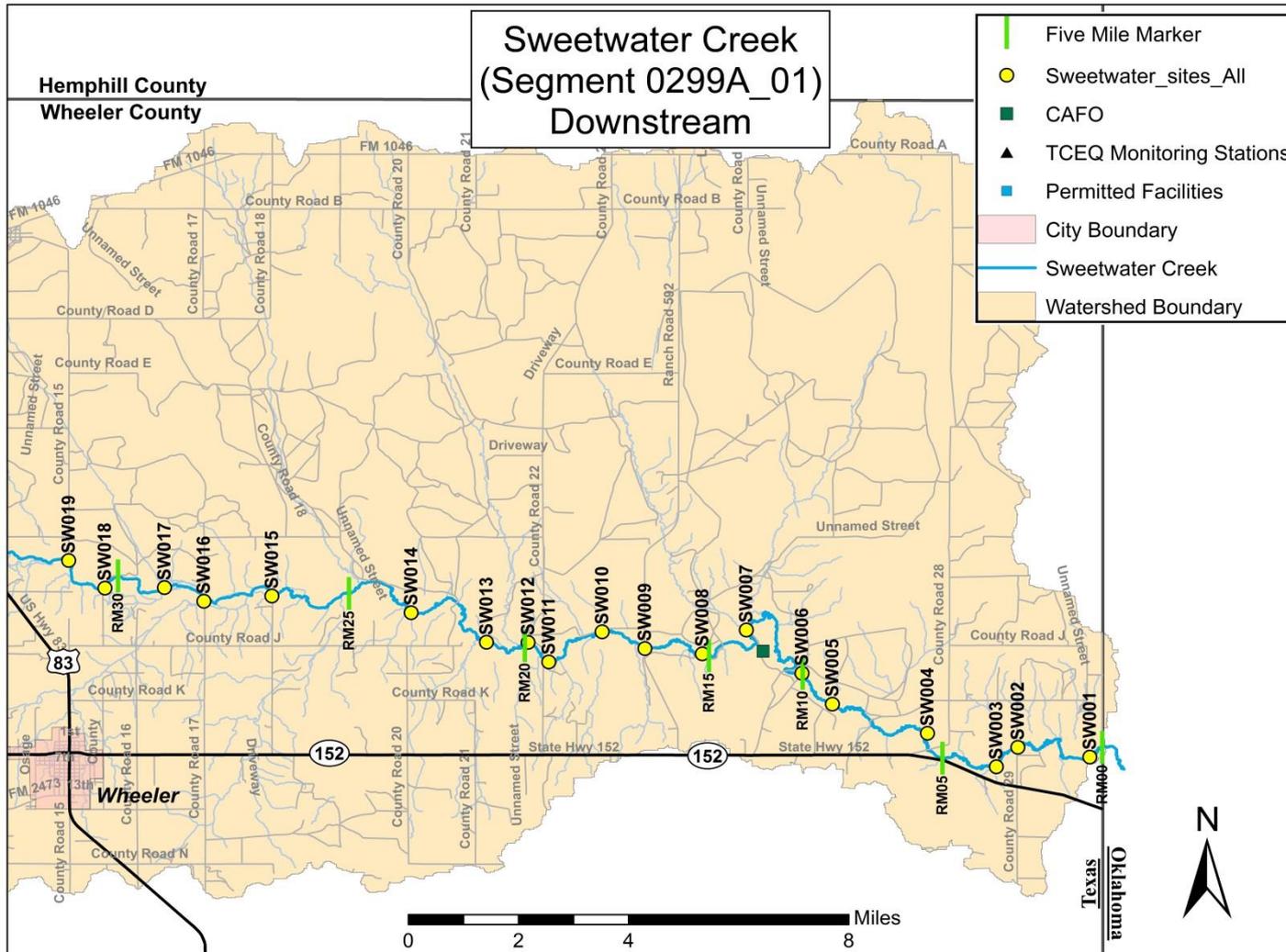
# Survey Dates for Sweetwater Creek

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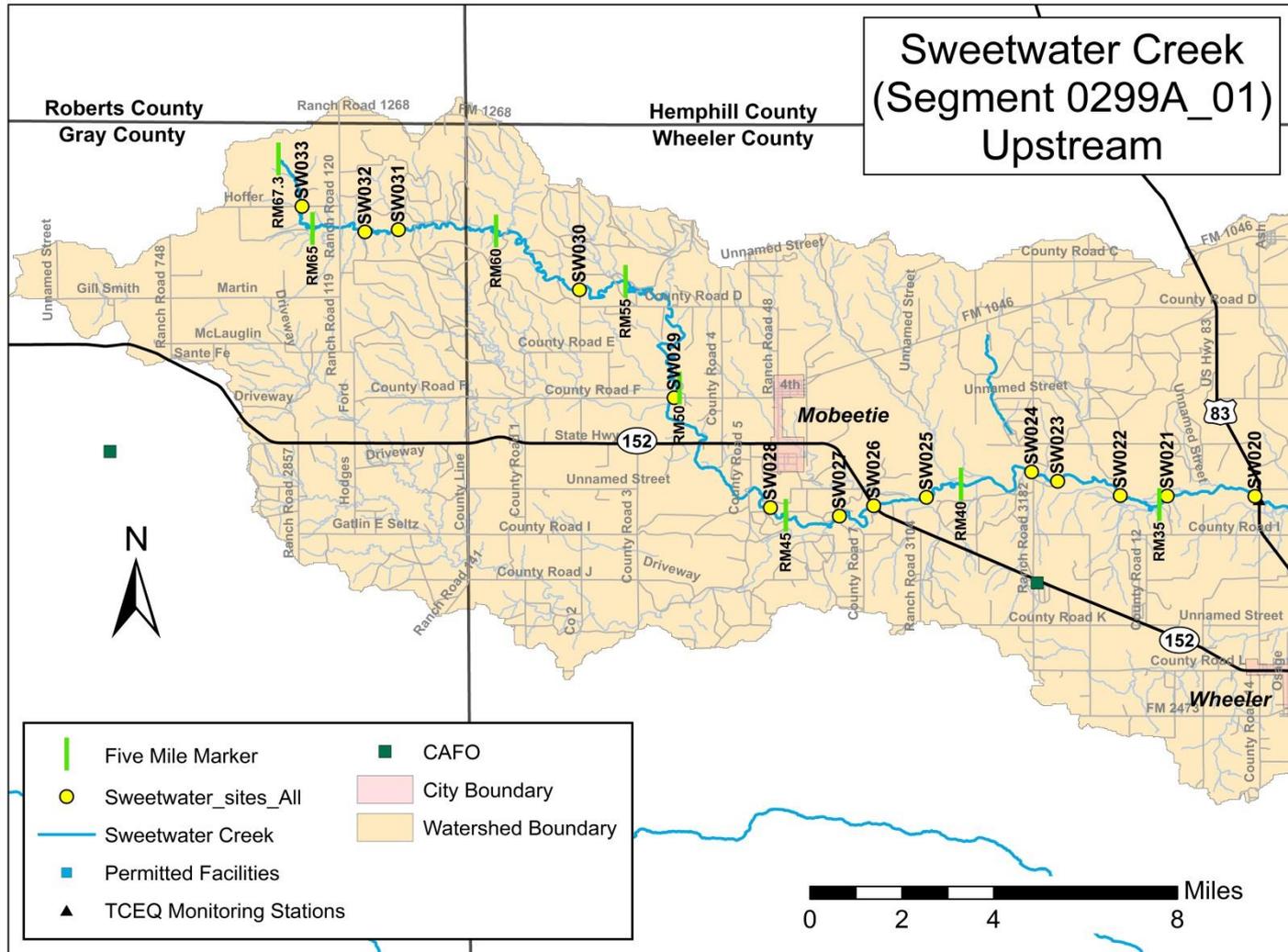
- 2013 – First RUAA Survey
  - Data Collected May 25<sup>th</sup> – 28<sup>th</sup>
    - (Saturday - Tuesday)
- 2013 – Second RUAA Survey
  - Scheduled for July 29<sup>th</sup> – August 3<sup>rd</sup>
    - (Monday - Saturday)



# Sweetwater Creek Downstream



# Sweetwater Creek Upstream

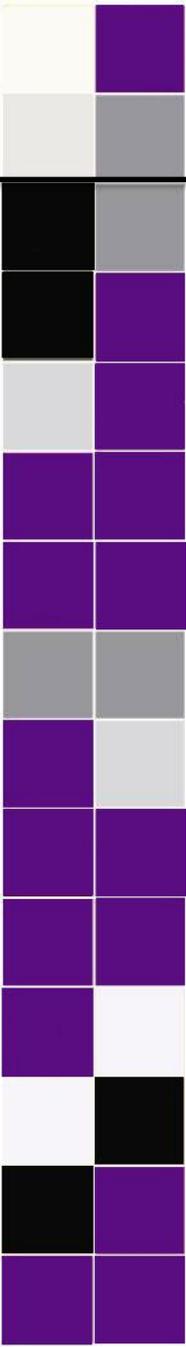


TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi) <sup>1</sup>	Distance from Confluence (mi) <sup>1</sup>	Distance from Upper Reach (mi) <sup>1</sup>	Access
<b>0299A AU_01</b>								
	SW001	Sweetwater Creek on private property, 452 river mile east of CR 30 east of Wheeler	35.443954	-100.003792	-	0.45	66.85	Private
	SW002	Sweetwater Creek, East of Wheeler, at County Rd 29	35.446533	-100.022742	2.35	2.81	64.49	Public
	SW003	Sweetwater Creek on private property, 0.62 river miles west of CR 29, east of Wheeler	35.441365	-100.028398	0.62	3.43	63.87	Private
	SW004	Sweetwater Creek on private property, 0.46 river miles Northwest of County Rd 28. East of Wheeler	35.450298	-100.046504	2.33	5.75	61.55	Private
	SW005	Sweetwater Creek on private property, 2.94 river miles upstream from CR, northeast of Wheeler	35.458063	-100.071495	2.85	8.60	58.70	Private
	SW006	Sweetwater Creek on private property, 3.3 river miles downstream of confluence with Williams Creek northeast of Wheeler	35.466318	-100.079502	1.41	10.01	57.29	Private
	SW007	Sweetwater Creek on private property, 0.15 river mile west of confluence with Williams Creek. northeast of Wheeler	35.477873	-100.094140	3.46	13.47	53.83	Private
	SW008	Sweetwater Creek on private property, 1.41 river miles east of RR 592, northeast of Wheeler	35.471474	-100.105703	1.63	15.11	52.19	Private
	SW009	Sweetwater Creek at RR 592, northeast of Wheeler, east of road.	35.472910	-100.120793	1.41	16.52	50.78	Public
	SW010	Sweetwater Creek on private property, 0.93 river mile upstream RR 592, northeast of Wheeler, on private property	35.477395	-100.132038	0.93	17.45	49.85	Private
<b>0299A AU_02</b>								
	SW011	Sweetwater Creek on private property, 0.10 river mile downstream of CR 22, northeast of Wheeler, on private property	35.469328	-100.146057	1.87	19.32	47.98	Private

TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi) <sup>2</sup>	Distance from Confluence (mi) <sup>2</sup>	Distance from Upper Reach (mi) <sup>2</sup>	Access
	SW012	Sweetwater Creek on private property, 0.42 river mile upstream of CR 22, 0.2 river mile downstream from confluence with Coburn Creek, northeast of Wheeler	35.474517	-100.151486	0.53	19.84	47.46	Private
	SW013	Sweetwater Creek, Northeast of Wheeler, on private property, 1.1 river mile upstream from confluence with Coburn Creek.	35.474586	-100.162442	1.04	20.88	46.42	Private
	SW014	Sweetwater Creek on private property, 1.5 river mile downstream from confluence with Goodlin Creek, northeast of Wheeler	35.482457	-100.182238	2.45	23.34	43.97	Private
	SW015	Sweetwater Creek on CR 18, northeast of Wheeler, east of road	35.486929	-100.218843	3.41	26.74	40.56	Public
	SW016	Sweetwater Creek on CR 17, northeast of Wheeler, west of road.	35.485544	-100.236763	1.52	28.26	39.04	Public
	SW017	Sweetwater Creek, on private property, 0.74 river miles west of CR 17, north-northeast of Wheeler near confluence with Jenkins-Jones Creek.	35.489176	-100.247114	0.74	29.00	38.30	Private
	SW018	Sweetwater Creek on private property, 2 river miles east of Hwy 83, north-northeast of Wheeler	35.489027	-100.262778	1.31	30.31	36.99	Private
	SW019	Sweetwater Creek on private property, 0.84 river mile East of Hwy 83, North of Wheeler,	35.496383	-100.272271	0.54	30.85	36.45	Private
10072	SW020	Sweetwater Creek, north of Wheeler, west of Hwy 83.	35.500476	-100.291368	0.84	31.69	35.61	Public
	SW021	Sweetwater Creek on private property, 1 river mile west of confluence with Dubbs Creek and 3 river miles west of Hwy 83, northwest of Wheeler	35.500592	-100.318992	3.06	34.75	32.55	Private
	SW022	Sweetwater Creek on private property, 2.09 river miles East of RR 3182, northwest of Wheeler	35.500728	-100.333801	1.35	36.10	31.20	Private
	SW023	Sweetwater Creek, on private property, 0.57 river mile East of RR 3182, northwest of Wheeler	35.505332	-100.353598	1.52	37.62	29.68	Private

TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi) <sup>1</sup>	Distance from Confluence (mi) <sup>1</sup>	Distance from Upper Reach (mi) <sup>1</sup>	Access
	SW024	Sweetwater Creek at RR 3182, northwest of Wheeler, west of road.	35.508284	-100.361771	0.57	38.19	29.11	Public
	SW025	Sweetwater Creek on private property, 1.5 river mile West of confluence with Russell Creek and 0.2 river mile East of Adobe Creek, southeast of Mobeetie	35.500166	-100.394938	2.89	41.08	26.22	Private
10074	SW026	Sweetwater Creek at Hwy 152, southeast of Mobeetie, west of road.	35.497465	-100.411569	1.70	42.78	24.52	Public
	SW027	Sweetwater Creek on private property, 0.9 river mile southwest of Hwy 152, south of Mobeetie	35.494157	-100.422387	0.90	43.68	23.62	Private
	SW028	Sweetwater Creek on private property, 1.46 river mile upstream from confluence with Graham Creek, 2.73 river mile upstream from Hwy 152, south of Mobeetie	35.496861	-100.444134	1.83	45.51	21.79	Private
	SW029	Sweetwater Creek on CR F, northeast of Mobeetie, south of road.	35.532031	-100.474459	4.23	49.74	17.56	Public
	SW030	Sweetwater Creek, on CR 2, northeast of Mobeetie, west of road	35.566614	-100.504330	5.48	55.22	12.08	Public
	SW031	Sweetwater Creek on private property, 1.77 river mile East of RR 120 in Gray County Northeast of Mobeetie	35.585865	-100.561449	7.31	62.53	4.77	Private
	SW032	Sweetwater Creek on private property, 0.80 river mile east of RR 120 in Gray County, northeast of Mobeetie	35.585149	-100.571943	0.97	63.50	3.80	Private
	SW033	Sweetwater Creek on Hoffer Rd in Gray County, northeast of Mobeetie, north of road.	35.593337	-100.591795	2.58	66.08	1.22	Public

<sup>1</sup> Distances were digitally estimated using the measuring tool in ArcGIS 9.3 with the 2010 NAIP 1m DOQQs and the NHD stream layer as reference guides.



# Findings First RUAA Survey

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- Conducted May 25<sup>th</sup>-28<sup>th</sup>
  - (Saturday - Tuesday)
- Summary
  - Limited water for recreation
  - No direct recreation observed
  - Limited public access, mostly private property



# Sweetwater Creek Photographs

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**Downstream at SW001**



**Steep Banks at SW001**



# Sweetwater Creek Photographs

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**Public access at SW002**



**Wildlife Tracks at SW002**



# Sweetwater Creek Photographs

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**Hydrophytes and surface scum  
at SW009**



**Obstruction at SW011**



# Sweetwater Creek Photographs

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**Upstream at SW 013**



**Beaver Activity at SW020**



# Sweetwater Creek Photographs

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**Livestock Tracks at SW020**



**Dense Vegetation at SW024**



# Sweetwater Creek Photographs

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**Upstream at SW027**



**Upstream at SW029**



# Sweetwater Creek Photographs

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**Downstream at SW030**



**Upstream at SW033**



# Sweetwater Creek Photographs

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**Trap at SW026**



**ATV tracks at SW003**



# Sweetwater Creek Photographs

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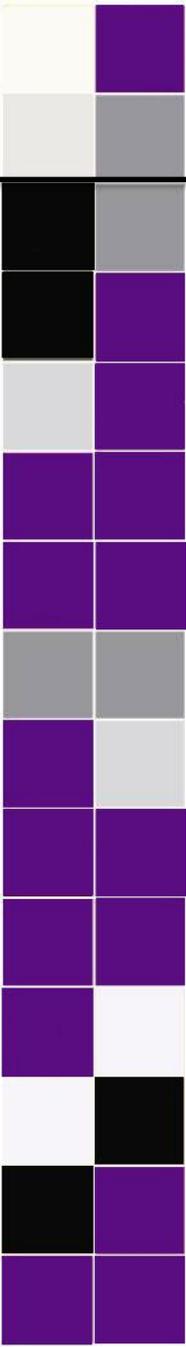


**Picnic Area at SW032**



**Fishing Tackle at SW024**



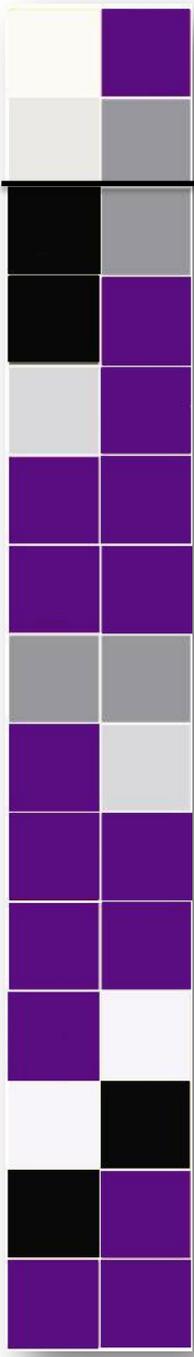


# Next Steps

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- Second Field Survey
  - Scheduled for July 29<sup>th</sup> – August 3rd
    - (Monday - Saturday)
- Historical Review – on-going
  - Request information on past recreational use of Sweetwater Creek





# Next Steps

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- Interviews – on-going
  - We need feedback on current and past recreational uses of Sweetwater Creek

Interview Forms may be requested  
from TIAER

[lrbrown@tiaer.tarleton.edu](mailto:lrbrown@tiaer.tarleton.edu)

(254) 968-0513



# Contact Information

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Leah Taylor (Brown)

Email: [lrbrown@tiaer.tarleton.edu](mailto:lrbrown@tiaer.tarleton.edu)

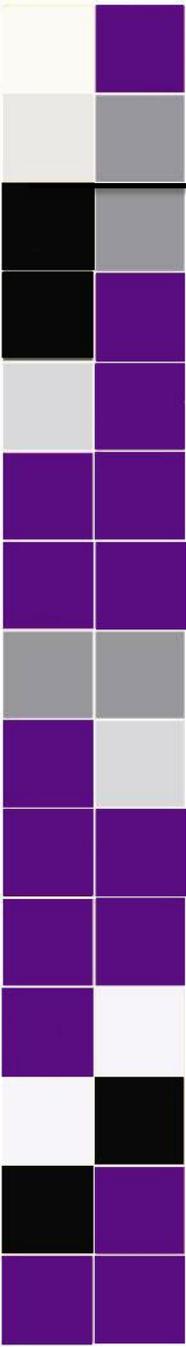
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Sarah Robinson

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# Questions?

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## Thank You

Leah Taylor (Brown)

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