



Tarleton State University
A member of The Texas A&M University System



Paradise Creek

Recreational Use Attainability Analysis Summary of Findings

Texas Institute for Applied Environmental Research
Stephenville, Texas



June 9, 2014



Project Partners

- Texas State Soil and Water Conservation Board (TSSWCB)
- Texas Institute for Applied Environmental Research (TIAER)



TSSWCB

- Provide state oversight
- Management and coordination of project activities
 - Project partners
 - Texas Commission on Environmental Quality (TCEQ)
- Provide project funding



TIAER

- Project administration
- Develop & maintain stakeholder relations
- Perform RUAA survey activities
- GIS inventory
- Facilitate meetings
- Develop final technical reports



Why we are here

- Texas 303 (d) List of Impaired Water bodies
 - Developed by TCEQ to summarize the condition of the state's surface waters, including concerns for public health, fitness for use by aquatic species and other wildlife, and specific pollutants and their possible sources.



Bacteria Impairment

- Paradise Creek is not meeting the water quality standard for primary contact recreation
 - Due to elevated levels of bacteria, *E. coli*.
 - Requires action to meet the standards that are set by the State of Texas and EPA.
 - Geometric mean should not exceed 126 cfu/ 100ml

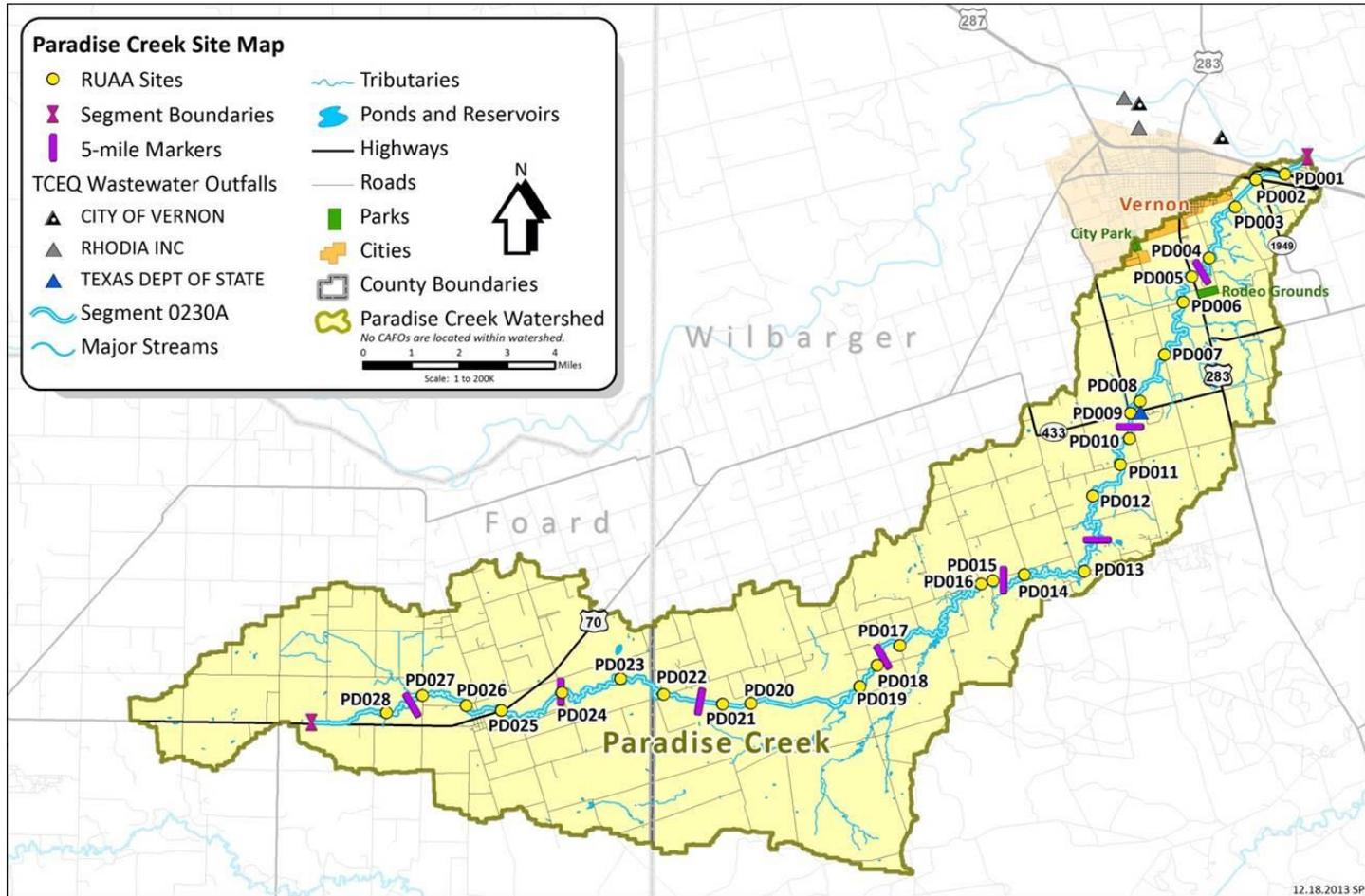


Impaired Stream Segments

- Paradise Creek (0230A)
 - 2006 Texas Water Quality 303(d) List
 - Bacteria
 - Current Geometric mean = 340 cfu/ 100mL



Paradise Creek Site Map



TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi)¹	Distance from Confluence (mi)¹	Distance from Upper Reach (mi)¹	Access
10094	PD001	Paradise Creek at US Hwy 287	34.152518	-99.245708	-	0.62	43.02	Public*
	PD002	Paradise Creek at State Loop 488, south of road	34.150771	-99.256401	0.70	1.32	42.32	Public*
	PD003	Paradise Creek at Summerour Rd, east of road	34.142409	-99.263835	0.76	2.08	41.56	Public*
	PD004	Paradise Creek at Eagle St, west of road	34.126706	-99.273206	2.21	4.29	39.35	Public*
	PD005	Paradise Creek at US Hwy 183, east of road	34.120926	-99.279594	0.84	5.13	38.51	Public*
	PD006	Paradise Creek at CR 128, south of road	34.113162	-99.282745	0.99	6.12	37.52	Public*
	PD007	Paradise Creek at old CR 99 S	34.096945	-99.289448	1.46	7.58	36.06	Private
	PD008	Paradise Creek 0.40 river miles northeast of FM 433 bridge	34.082657	-99.298264	1.48	9.06	34.58	Private
17600	PD009	Paradise Creek at FM 433, north of road	34.078991	-99.301707	0.40	9.46	34.18	Public*

TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi)¹	Distance from Confluence (mi)¹	Distance from Upper Reach (mi)¹	Access
	PD010	Paradise Creek 0.68 river miles southwest of CR 97 S	34.071150	-99.302150	0.68	10.14	33.50	Private
	PD011	Paradise Creek at CR 134, south of road	34.063181	-99.305328	0.99	11.13	32.51	Public*
	PD012	Paradise Creek 1.5 river miles south of CR 134	34.053478	-99.315339	1.50	12.63	31.01	Private
	PD013	Paradise Creek at FM2585	34.030332	-99.318321	3.85	16.48	27.16	Public*
	PD014	Paradise Creek 1.35 river miles southeast of CR 138	34.029279	-99.340239	2.29	18.77	24.87	Private
	PD015	Paradise Creek at CR 138 west of CR 89, south of road	34.027440	-99.351650	1.35	20.12	23.52	Public*
	PD016	Paradise Creek at CR 138 near intersection with CR 85 S, north of road	34.026317	-99.355889	0.33	20.45	23.19	Public*
	PD017	Paradise Creek at CR 81, east of road	34.007302	-99.385386	3.78	24.23	19.41	Public*
	PD018	Paradise Creek at CR 140, north of road	34.001297	-99.393540	1.12	25.35	18.29	Public*
	PD019	Paradise Creek at RR 1207, west of road	33.994768	-99.399824	0.75	26.1	17.54	Public*
	PD020	Paradise Creek 1.8 river miles east of CR 138	33.989388	-99.439459	2.43	28.53	15.11	Private

TCEQ ID	Site ID	Site Description	Latitude	Longitude	Distance from Previous Site (mi)¹	Distance from Confluence (mi)¹	Distance from Upper Reach (mi)¹	Access
	PD019	Paradise Creek at RR 1207, west of road	33.994768	-99.399824	0.75	26.1	17.54	Public*
	PD020	Paradise Creek 1.8 river miles east of CR 138	33.989388	-99.439459	2.43	28.53	15.11	Private
	PD021	Paradise Creek 1.2 river miles east of CR 138	33.989163	-99.449744	0.6	29.13	14.51	Private
	PD022	Paradise Creek at CR 138	33.992020	-99.471200	1.31	30.44	13.2	Public*
	PD023	Paradise Creek 2.23 river miles east of CR 195	33.996853	-99.486981	3.1	33.54	10.1	Private
	PD024	Paradise Creek at CR 195, west of road	33.992512	-99.508263	2.23	35.77	7.87	Public*
	PD025	Paradise Creek at US Hwy 70 east of Thalia	33.986851	-99.530203	2.01	37.78	5.86	Public*
	PD026	Paradise Creek at CR 288, west of road	33.988370	-99.543021	0.96	38.74	4.90	Public*
	PD027	Paradise Creek at CR 239, east of road	33.991364	-99.558936	1.41	40.15	3.49	Public*
	PD028	Paradise Creek 1.57 river miles west of CR 239	33.98600	-99.572000	1.57	41.72	1.92	Private

* indicates that the site was publically accessible at a road crossing but that further access was limited by fencing of private property.

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

Purpose of RUAA

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



Survey Dates for Paradise Creek

- First RUAA Survey
 - Conducted June 9 – 11 & 14, 2013
- Second RUAA Survey
 - Conducted August 11 - 13, 2013



Findings for First RUAA Survey

- Conducted June 9th – 11th and 14th
- Summary
 - Limited water for recreation
 - No direct recreation observed
 - Limited public access, mostly private property



Paradise Creek Photographs



Upstream at PD028



Downstream at PD001



Paradise Creek Photographs



Shotgun Shell at PD021



Duck Decoys at PD007

Paradise Creek Photographs



Upstream at PD026



Downstream at PD002



Paradise Creek Photographs



Upstream at PD012



Downstream at PD016



Paradise Creek Photographs



Upstream at PD016



Downstream at PD018



Paradise Creek Photographs



Deer Droppings at PD015



Hog Tracks at PD015

Paradise Creek Photographs



Oil & Gas Pipe at PD015



Brush Obstruction at PD018



Paradise Creek Photographs



Upstream at PD014



Tile Drain at PD014



Paradise Creek Photographs



Tires & Trash near Bridge at PD013



Trash at Bridge at PD006



Findings for Second RUUA Survey

- Conducted August 11th – 13th
- Summary
 - Limited water for recreation
 - No direct recreation observed
 - Limited public access, mostly private property



Paradise Creek Photographs



Upstream at PD001



Downstream at PD001



Paradise Creek Photographs



Upstream at PD005



Downstream at PD005



Paradise Creek Photographs



Left Bank at PD011



Right Bank at PD011

Paradise Creek Photographs



**Dump Sight on Right Bank at
PD015**



Hog Wallows at PD015

Paradise Creek Photographs



Upstream at PD020



Downstream at PD020



Paradise Creek Photographs



Upstream at PD024



Downstream at PD024



Paradise Creek Photographs



Upstream at PD025



Wasp Nest at PD025



Paradise Creek Photographs



Right Bank at PD028



Left Bank at PD028



Summary of Activity

Site Name	Swimming	Adult Wading	Children Wading	Hunting	Fishing	Boating/Canoeing
PD001	0,0,0	0,0,0	0,0,0	1,1,1	0,1,1	0,0,0
PD002	1,0,0	0,0,0	1,0,0	*	2,0,1*	0,0,0
PD003						
PD004	1,1,1	0,0,0	1,0,0	0,0,0	0,1,0	0,0,0
PD005	*	0,0,0	*	*	*	0,0,0
PD006	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
PD007						
PD008						
PD009						
PD010	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
PD011	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
PD012	0,0,0	0,0,0	0,0,0	1,0,0	0,0,0	0,0,0
PD013	0,0,0	0,0,0	0,0,0	*	0,0,0	0,0,0
PD014						
PD015				*		
PD016				*		
PD017	0,0,0	0,0,0	0,0,0	*	0,0,0	0,0,0
PD018				*		
PD019	0,0,0	0,0,0	0,0,0	*	0,1,0	0,0,0
PD020	0,0,0	0,0,0	0,0,0	0,0,0	*	0,0,0
PD021					*	
PD022					*	
PD023					*	
PD024					*	
PD025					*	
PD026					*	
PD027	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
PD028	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
General	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0	0,0,0
Totals	2,1,1	0,0,0	2,0,0	2,1,1	2,3,2	0,0,0



An * indicates recreation at multiple sites from one interview forms.



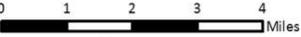
Paradise Creek Activity Map

- RUAA Sites
- ✂ Water Body Boundaries
- | 5-mile Markers
- Highways
- Roads
- ~ Water Body 0230A
- ~ Tributaries
- ☪ Ponds and Reservoirs
- + Cities
- County Boundaries
- Paradise Creek Watershed

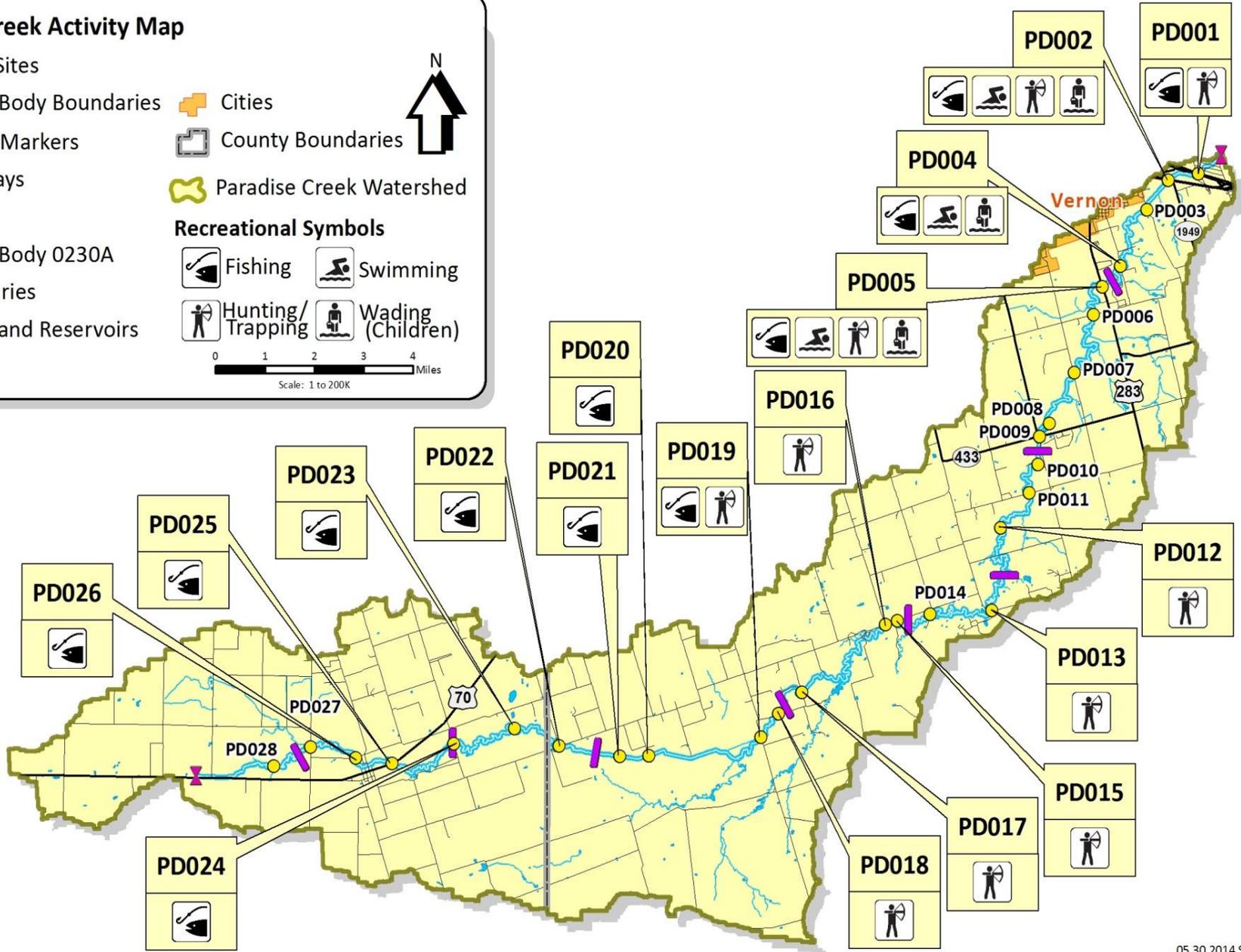
Recreational Symbols

	Fishing		Swimming
	Hunting/Trapping		Wading (Children)





Scale: 1 to 200K



Next Steps

- Public Comment Period
 - **Open from June 9– July 9, 2014**
 - Please take this opportunity to review the Red River RUAA Report
 - Provide Comments
 - Report can be viewed:
<http://www.tsswcb.texas.gov/en/managementprogram/ruaaparadise>



Contact Information

Leah Taylor

Email: ltaylor@tiaer.tarleton.edu

Office Phone: 254.968.0513

Sarah Robinson

Email: srobinson@tiaer.tarleton.edu

Office Phone: 254.968.1913



Questions?

Project Website:

<http://www.tsswcb.texas.gov/en/managementprogram/ruaparadise>

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Leah Taylor

Texas Institute for applied Environmental Research

ltaylor@tiaer.arleton.edu

(254) 968-0513

