

Nueces River Authority

***Aransas Creek
Recreational Use Attainability
Analysis (RUAA)
Second Field Survey and Final
Report Findings***

Study Team:
Nueces River Authority - Coastal Bend Division
Corpus Christi, Texas

April 30th, 2013

Acknowledgements

Funding provided by State General Revenue Non-Point Source Grant Program through Texas State Soil and Water Conservation Board (TSSWCB)

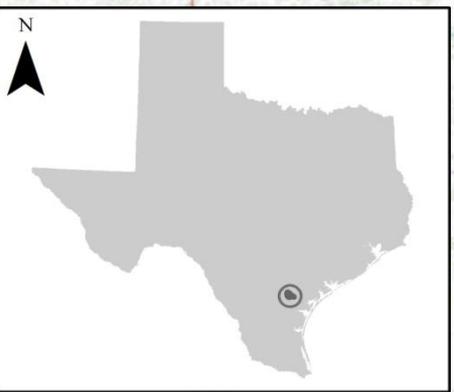
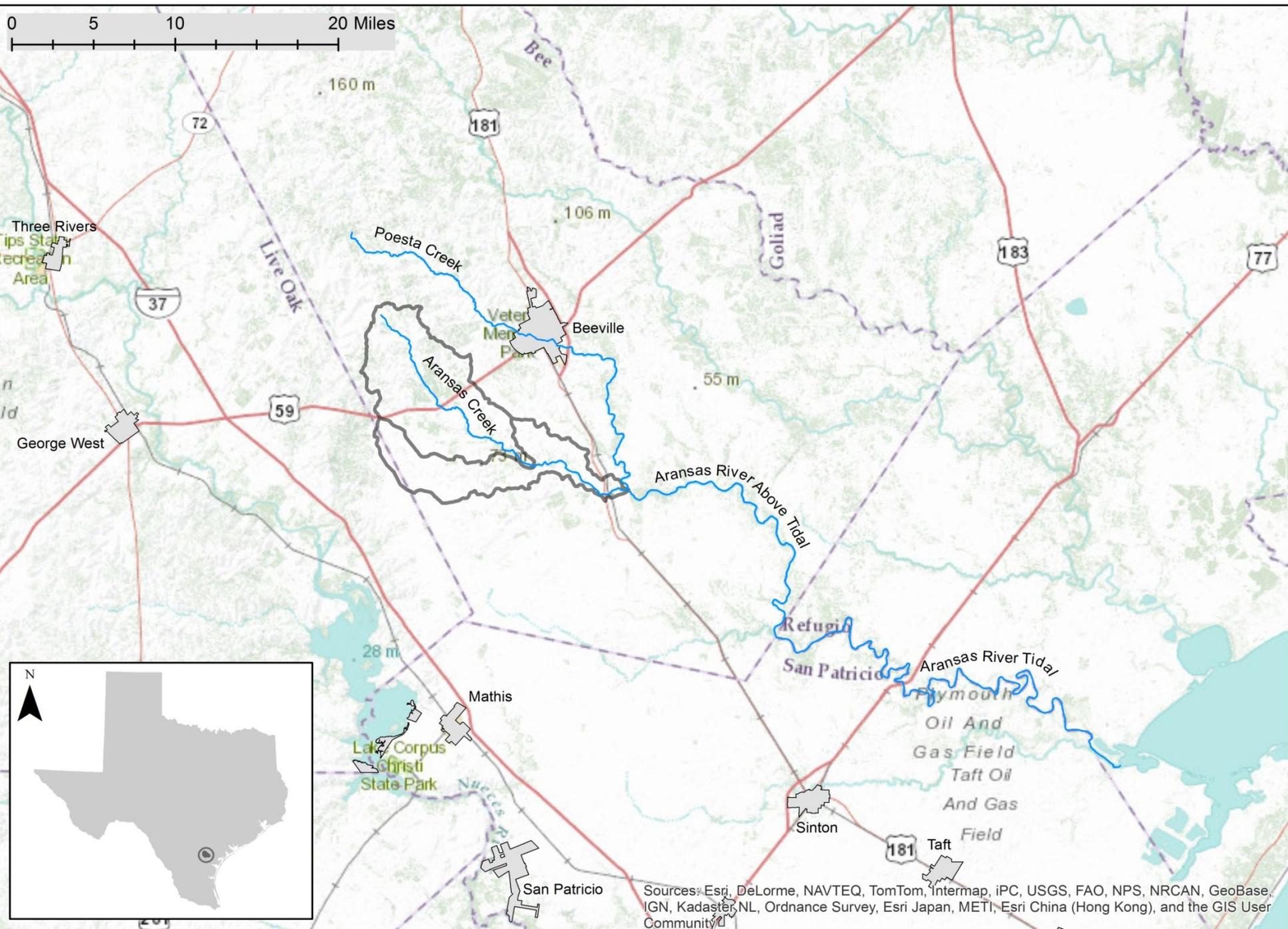
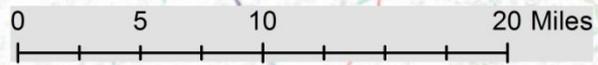
Meeting Agenda Items

- Findings from the Second Field Survey that occurred on September 28, 2013.
- Overview of Findings from the Final Report.

Recreation Use Tiers

- Primary Contact Recreation – includes wading by children, swimming, water skiing, tubing, kayaking, canoeing, rafting. Is there a potential for ingestion?
- Secondary Contact Recreation 1 – fishing, commercial or recreational boating, limited body contact incidental to shoreline activity.
- Secondary Contact Recreation 2 – Occur less frequently than SCR-1 due to physical characteristics of the water body or limited public access.
- Non Contact Recreation – Activities that do not involve a significant risk of water ingestion. Includes birding, hiking, biking.

Aransas Creek



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, IPC, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

ACk08 Upstream View



ACk08 Right Bank View



ACk08 Left Bank View



ACk08 Downstream View



ACk08 Upstream View at 300m



ACk08 Downstream View at 300m



ACk08B Upstream View



ACk08B Downstream View



ACk07 Upstream View



ACk07 Downstream View



ACk06 Upstream View at 300m



ACk06 Right bank View at 300m



ACk06 Left bank View at 300m



ACk06 Downstream View at 300m



ACk05 Upstream View



ACk05 Downstream View







ACk04 Upstream View



ACk04 Downstream View





ACk03 Upstream View



ACk03 Downstream View



ACk03 Upstream View at 300m



ACk03 Right Bank View at 300m



ACk03 Left Bank View at 300m



ACk03 Downstream View at 300m













ACk02 Downstream View



Interview Information

- No recreators were present at the time of the field survey.
- Interview forms have revealed that the following activities have occurred within Aransas Creek:
 - Fishing(NRA did not observe any fishing)

Findings from the Final Report

- Description of the study area.
- Land Cover/Land Use using GIS data.
- Discuss Regulated and Unregulated Bacteria Sources.
- Historical Information Review
- Evidence of Use

Study Area

- Aransas Creek watershed is approx. 45,170 acres.
- Annual Rainfall is approx. 30 inches/year.
- Aransas Creek flows approx. 20 miles to its confluence with Aransas River.
- Flow in mid to lower portion is defined as Intermittent with Perennial Pools
 - maintains persistent pools when the flow is less than 0.1 CFS.
- Upper portion of the creek is defined as ephemeral
 - It flows in conjunction with a rain event.

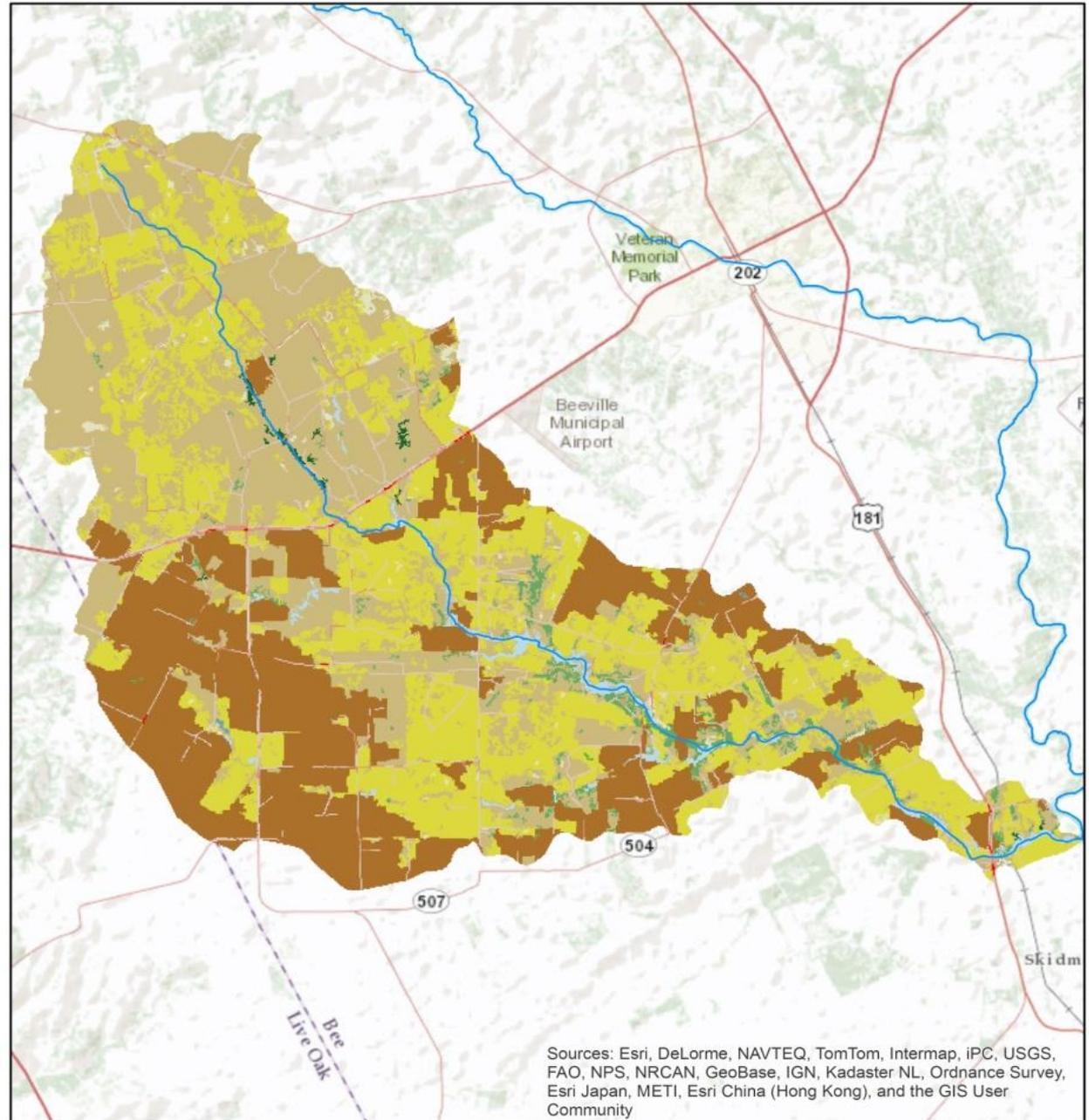
Land Use/Land Cover for Aransas Creek

- **33.21% Shrub/Scrub** – Shrubs less than 5 meters tall with canopy greater than 20% of total vegetation.
- **32.33% Hay/Pasture** – Grasses and legumes for grazing/seed or hay crops.
- **26.04% Cultivated Crops** – Annual crops such as corn, cotton or grain sorghum (milo).
- **3.29% Developed Open Space** – Mix of constructed materials and lawns (houses, parks)
- These represent about 95% of the land cover
- **Developed areas account for less than 1% of total.**

Aransas Creek Land Use Land Cover

Type	Percentage	Area(ha)
Shrub/Scrub	33.21%	6070.30
Hay/Pasture	32.33%	5910.36
Cultivated Crops	26.04%	4760.11
Developed, Open Space	3.29%	601.42
Deciduous Forest	1.76%	321.34
Woody Wetlands	1.28%	233.13
Developed, Low Intensity	0.89%	162.35
Herbaceous	0.83%	152.31
Evergreen Forest	0.25%	46.21
Developed, Medium Intensity	0.05%	8.35
Emergent Herbaceous Wetlands	0.04%	8.14
Barren Land	0.02%	4.51
Mixed Forest	0.01%	1.33
TOTAL	100.00%	18279.8707

	Barren Land
	Cultivated Crops
	Deciduous Forest
	Developed, Low Intensity
	Developed, Medium Intensity
	Developed, Open Space
	Emergent Herbaceous Wetlands
	Evergreen Forest
	Hay/Pasture
	Herbaceous
	Mixed Forest
	Shrub/Scrub
	Woody Wetlands



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

Regulated and Unregulated Bacteria Sources

- **Regulated Sources** - Have permits issued by TCEQ under the Texas Pollutant Discharge Elimination System (TPDES) or USEPA under the National Pollutant Discharge Elimination System (NPDES).
 - Include: Wastewater Treatment Plants, Stormwater discharges from Industries, Construction, Cities and Confined Animal Feeding Operations (CAFOs).

Regulated Bacteria Sources

- Aransas Creek has **No Wastewater Treatment Facilities** within the watershed. Wastewater flows into Aransas River.
- Aransas Creek has **No Regulated Stormwater** because the population falls under the 50,000 person requirement defined in the permit. Beeville is outside the watershed.
- Aransas Creek has **No Concentrated Animal Feeding Operations** according to TCEQ.
- Aransas Creek has **No registered permits** for Land application of Sewage or Septic Sludge.

Potential Unregulated Bacteria Sources

- **Unregulated Sources** are typically nonpoint source in nature, meaning the pollution originates from multiple diffuse locations and is usually carried to surface waters by rainfall runoff.
 - Includes: On site sewage facilities, wildlife, unmanaged feral animals, pets and livestock.



On Site Sewage Facilities (OSSFs)

- Often used in rural areas that have no tie in to wastewater treatment facilities. States issue permits not the Feds. Old systems are grandfathered in and therefore exempt from permitting process.
- Estimated **502 Septic Systems in Aransas Creek** Watershed based on CBCOG database for Emergency Responders.
- 45 OSSFs permitted since 2000.

Potential Unregulated Bacteria Sources

<u>Livestock</u>	<u>est . # in Aransas Creek Watershed</u>
Deer	2,841
Beef Cattle	2,388
Feral Hogs	1,369
Goats	197
Horses	101
Poultry	80
Sheep	48
Domestic Hogs	8

Historical Information Review

- NRA contacted Libraries, Newspapers, the Internet and Historical Societies looking for documented instances of recreational activities – Nothing found concerning Type 1 recreation.

Evidence of Use

- No Primary Contact Recreation was observed during the field surveys.
- Evidence of Secondary Recreation was observed at three sites (ACk03, ACk04, and ACk05).
- Evidence included: Dirt trails, bridges, fishing structures, fishing gear (boat, rod and reel, fishing bobbers, fishing light).

Evidence of Use

Fishing Bobber at ACk03



Fishing poles, boat at ACk04



Evidence of Use

Fishing bobber near ACk05



Fishing bobber near ACk05

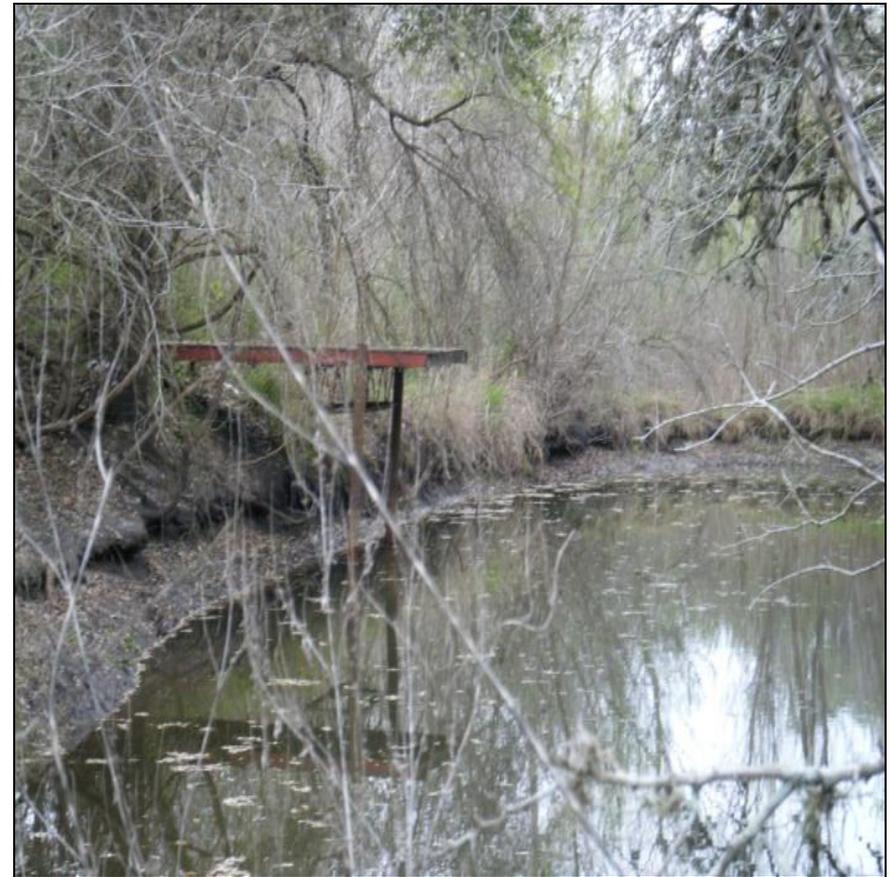


Evidence of Use

Wooden structures near ACk05



Fishing pier near ACk05



Evidence of Use

Pool Float near ACk05



Dirt Trail near ACk05





Questions?

Sam Sugarek
Nueces River Authority
ssugarek@nueces-ra.org
(361) 653-2110

Jana Lloyd
Texas State Soil and Water Conservation Board
jlloyd@tsswcb.texas.gov
(254) 773-2250 ext. 224