

Nueces River Authority
Steering Committee and Stakeholder Update #3
March - May 2020

Basin 20 - San Antonio-Nueces Coastal Basin

The San Antonio-Nueces Coastal Basin covers approximately 3,100 square miles, draining to Copano and St. Charles bays. The basin is largely rural, with the dominant industries being crop farming and cattle rearing. Monitoring sites in Basin 20 are located on the tidal and above tidal portions of the Mission and Aransas rivers and Poesta Creek. Tidal portions of the Mission and Aransas rivers have been impaired for the contact recreation standard, bacteria, since the 2004 Assessment. The above tidal portion of Aransas River and Poesta Creek is listed for the same parameter in the 2016 Assessment.



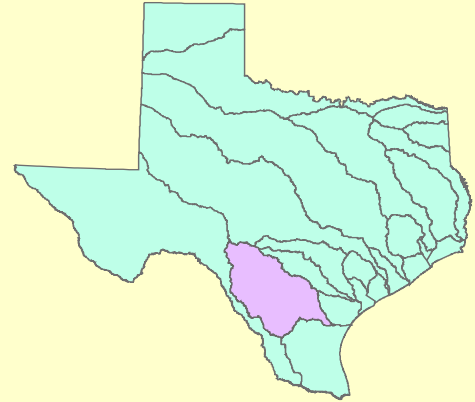
Mission and Aransas River Sampling

Nueces River Authority conducts routine water quality monitoring at 7 locations in the Mission/Aransas watershed (map of sampling sites on page #). All seven sites were visited on March 17th. Station 12941, located on Aransas Creek at US 181 near Skidmore, finally had enough water to sample (*E. coli* bacteria only). The bacteria standard on the waterbody has recently been raised from 126 to 630 MPN. Lab results indicated a bacteria concentration of 133 MPN. Bats were observed roosting under the bridge at the site samples were taken. Flow was <1 ft³/s.



Basin 21 - Nueces River Basin

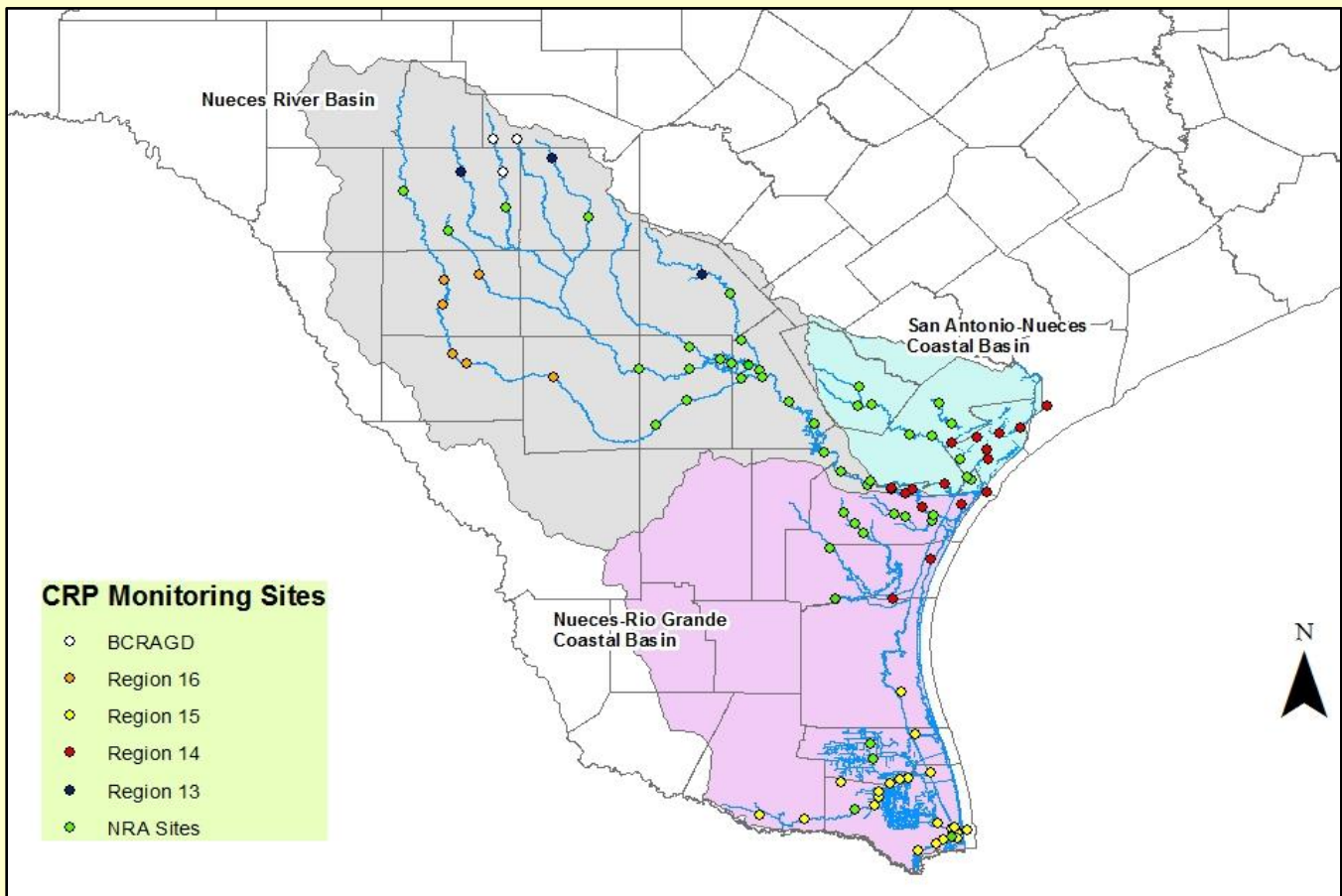
The Nueces River Basin covers approximately 17,000 square miles in South-Central Texas. The Nueces River winds 315 miles from its source in the Edwards Plateau near Rock Springs (elevation 2,402) through the brush country of the South Texas Plains to its end in Nueces Bay, located near Corpus Christi. The Nueces River is joined by the Frio and Atascosa rivers near the town of Three Rivers.



Nueces River Authority conducts routine water quality monitoring at 28 locations throughout the Nueces River Basin (see map on page 9).

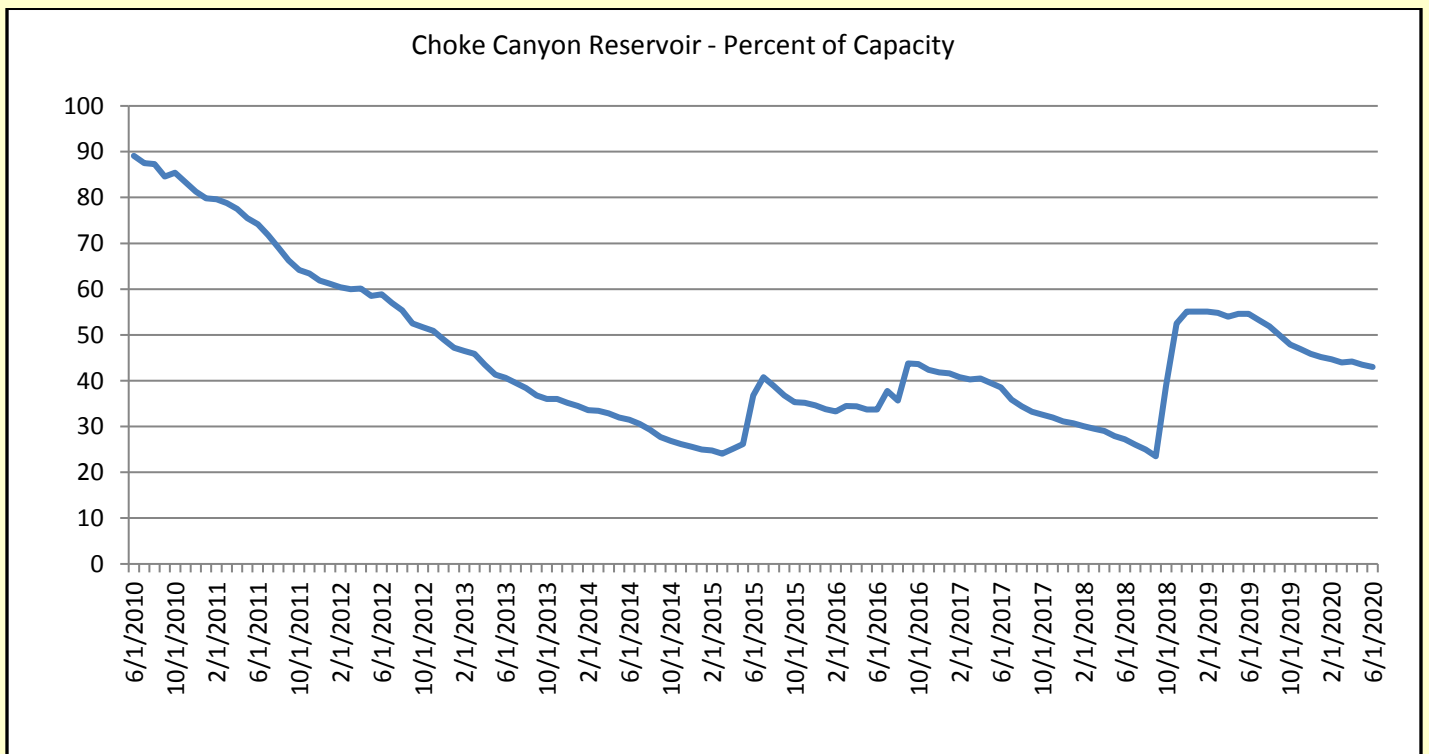
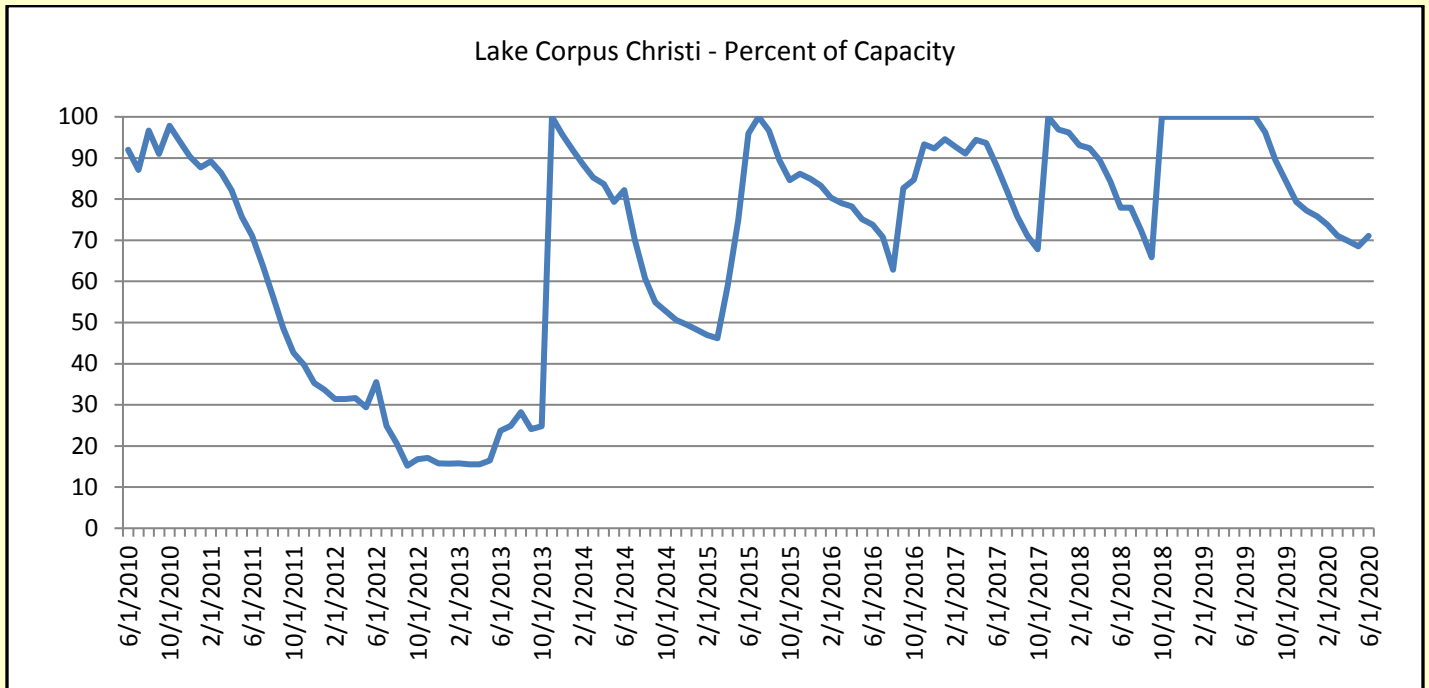
SWQM/CRP Coordinated Monitoring Meeting

Nueces River Authority hosted the annual Coordinated Monitoring Meeting via e-mail in late May with TCEQ Regions 13 – San Antonio, 14 – Corpus Christi, 15 – Harlingen, 16 – Laredo and Bandera County River Authority and Groundwater District. New stations on the Blind Oso, Chiltipin and Commissioner's creeks. One station on Aransas River Tidal (Station 12948 – US-77) was no longer needed following the completion of the of the TMDLs on the tidal segments of the Mission and Aransas rivers by TWRI. Two stations located on the lower Nueces River were also dropped due to the completion of the Nueces River Source-water project. Finally, 24-hour DO monitoring was added to the Leona River near Uvalde.



Lake Levels

Combined lake levels for the reservoir system dropped from 51.5% to 50.9% by the end of the quarter. For the Daily Reservoir System and Pass-Thru Status Report, please visit the website <https://www.nueces-ra.org/CP/CITY/passthru/index.php>.



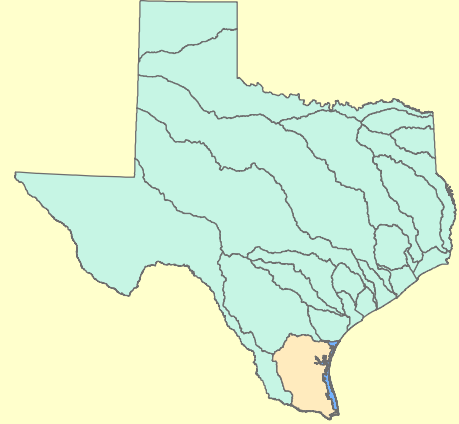
Watershed Characterization Report

NRAs Watershed Characterization Report is coming out this Summer! The report covers waters quality in the streams of the upper and middle Nueces River Watershed including: the upper and middle Nueces, Leona, upper Frio, and upper and lower Sabinal rivers, as well as Hondo and Seco creeks. We'll send out a link to the report after it's finalized.



Basin 22 – Nueces-Rio Grande Coastal Basin

The Nueces-Rio Grande Coastal Basin covers approximately 10,400 square miles in South Texas and includes streams such as the Arroyo Colorado Tidal (Segment 2201) and above tidal (Segment 2202) in the Rio Grande Valley and Petronila Creek Tidal (Segment 2203) and above tidal (Segment 2204), which is a tributary to Alazan Bay located on the northern arm of Baffin Bay.



Arroyo Colorado Above Tidal (Segment 2202)

Station 13079 is located on the above tidal portion of the Arroyo Colorado (Segment 2202) at the US-77 Bridge in Harlingen. Water quality at Station 13079 was monitored on May 6th. Bacteria levels (187 MPN) were above the standard (126 MPN) during the site visit.



San Martin Lake (Segment 2494C)

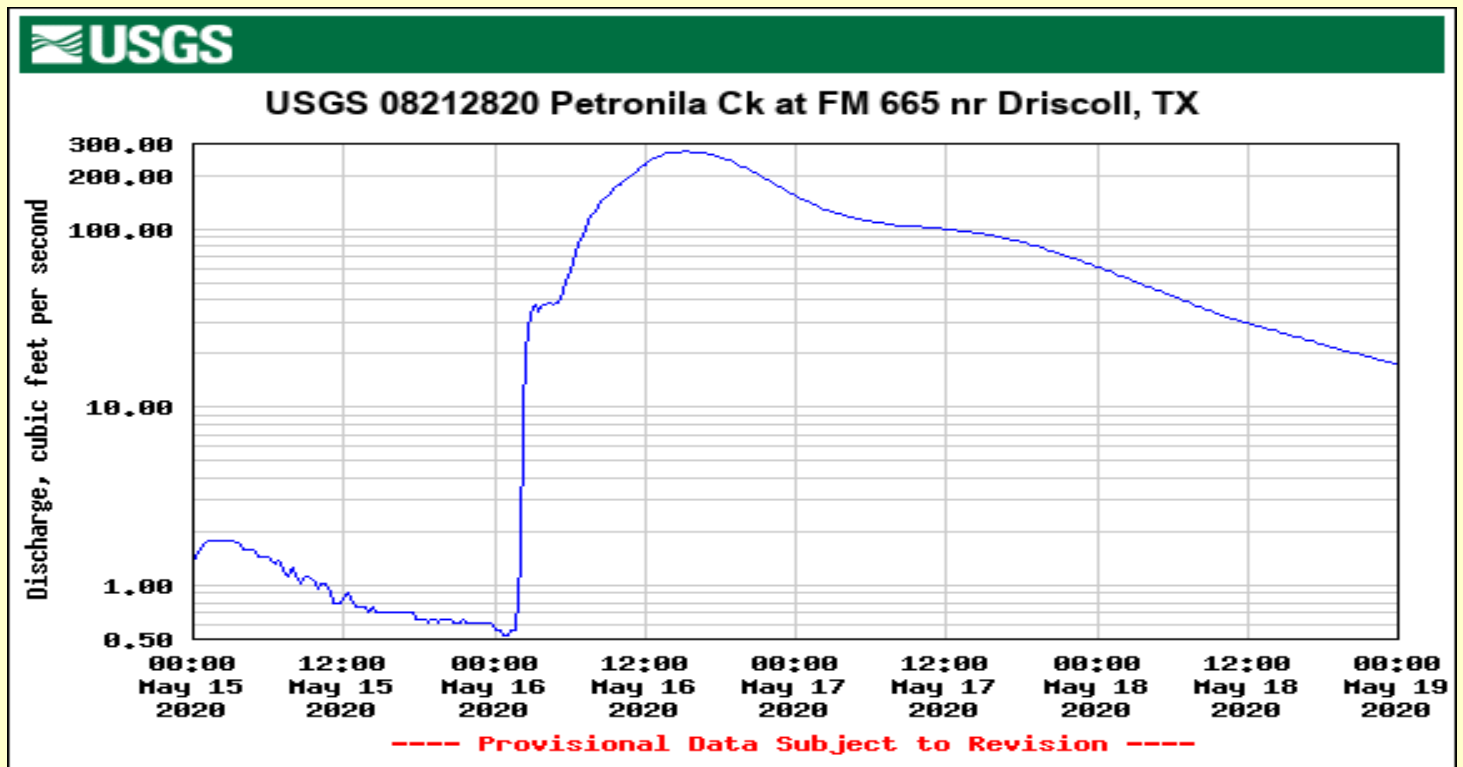
San Martin Lake system is located off the Brownsville Ship Channel in the Lower Rio Grande Valley. NRA field staff rented a small boat from UTRGV to travel up the shallow waterway on May 6th. Enterococcus bacteria levels were very high during the site visit (>2400 MPN). The area did get some rain a few days before sampling occurred. The station was added last year in support of the Lower Laguna Madre/Brownsville Ship Channel Watershed Protection Plan in Cameron County that is underway. If you would learn more about the project, visit the website:

<http://www.co.cameron.tx.us/lmbasc/>

Petronila Creek (Segment 2204) - High Flow Event on Petronila Creek

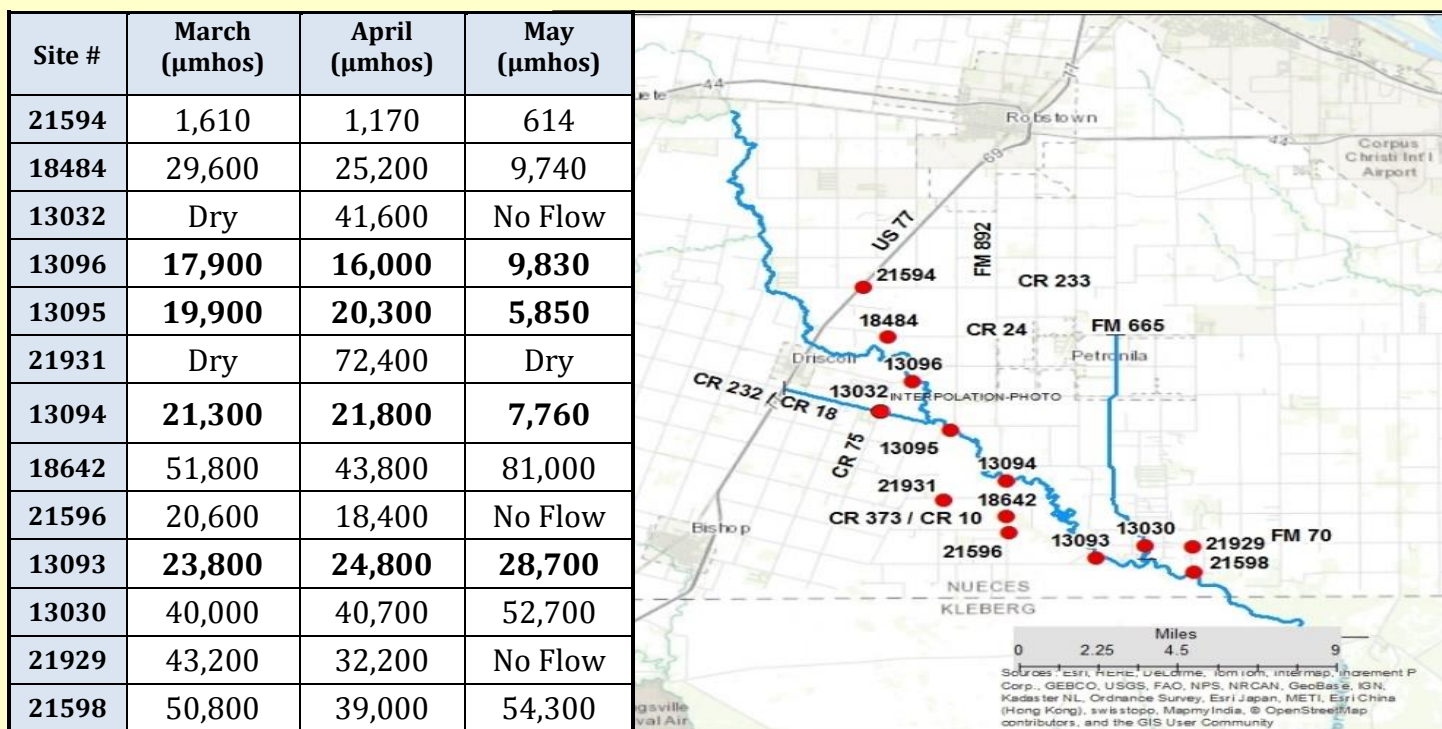


Nueces River Authority was awarded a CMP grant from the Texas General Land Office to conduct rain flow event monitoring on three tributaries of Baffin Bay including Petronila, San Fernando, and Los Olmos creeks. The Petronila Creek watershed received about 4 inches of rain on May 16th resulting in a moderate high flow event. USGS streamgage on FM 665 near Driscoll recorded a flow of approximately 300 ft³/s. Samples were taken on the 16th and 17th and data will be shared when available.



Petronila Creek Tributary Study – Segment 2204

Since FY 2013-2014, the TCEQ has contracted with NRA to conduct monthly water quality monitoring to identify chloride, sulfate, and TDS contributions from tributaries of Petronila Creek, including drainage ditches. For FY 2020, NRA is conducting monthly monitoring at 13 sites. Four sites are located on the main stem of Petronila Creek (13096, 13095, 13094, and 13093 – data is in bold on the graph). Monitoring for March through May is summarized below. (Disclaimer – Data has not been validated or input into the SWQMIS Database.)



Nutrient concentrations were very low during the dry weather sampling event. When enough data is compiled, a graph of the data and nutrient screening levels will be added. Nutrient results for February 2020 are provided below:

Site #	Ammonia (mg/L)	Diss. TKN (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	TKN (mg/L)	Total Phos (mg/L)	Chlorophyll-a (µg/L)	Pheophytin (µg/L)
21594	<0.1	0.29	<0.025	<0.02	0.38	0.26	21.9	7.0
18484	<0.1	0.42	<0.025	<0.02	1.1	0.13	83.0	16.4
13032	dry	dry	dry	dry	dry	dry	dry	dry
13096	<0.1	0.40	<0.025	<0.02	2.5	0.08	147.4	33.4
13095	<0.1	0.04	<0.025	<0.02	1.6	<0.06	165.4	45.5
21931	dry	dry	dry	dry	dry	dry	dry	dry
13094	<0.1	0.54	<0.025	<0.02	1.5	0.09	148.9	30.7
18642	<0.1	0.72	<0.025	<0.02	1.8	0.08	27.8	67.8
21596	<0.1	1.1	<0.025	<0.02	1.8	<0.06	16.4	8.9
13093	<0.1	0.72	<0.025	<0.02	1.2	0.09	56.1	19.7
13030	<0.1	0.54	<0.025	<0.02	0.73	<0.06	No data	No data
21929	0.17	0.64	<0.025	<0.02	1.3	0.07	7.4	1.3
21598	0.14	0.79	2.2	<0.02	1.1	0.14	10.9	3.3

Basin 24 –Bays and Estuaries

The Bays and Estuaries region of Texas covers approximately 2,002 square miles along the entire Texas Coast. There are 48 classified estuarine segments that are monitored by several River Authorities and TCEQ regional offices. NRA monitors water quality in 5 of the coastal segments including: Copano/Port/Mission Bay (Segment 2472), Redfish Bay (Segment 2483), Oso Bay (Segment 2485), Laguna Madre (Segment 2491), and Baffin Bay/Alazan Bay/Cayo del Grullo/Laguna Salada (Segment 2492) which includes Los Olmos and San Fernando creeks.

Hidalgo Main and Raymondville Drain (Segment 2491C)

The Hidalgo Main (Station ID 22003) and Raymondville Drains (Station ID 22004) are tributaries of the Lower Laguna Madre (Segment 2491). These two sites are located east of US-77 and were added to the CRP Monitoring Schedule back in 2018. Both sites were visited on April 15th. Bacteria levels on the Raymondville Drain were 200 MPN and 29 MPN on the Hidalgo Main Drain (standard is 126 MPN). (Disclaimer – Data has not been validated or input into the SWQMIS Database.)



Los Olmos Creek (Segment 2492B)

Los Olmos Creek runs 71 miles from southern Duval County to its confluence with Laguna Salada, an inlet of Baffin Bay. The creek was a new site (Station ID 13034) for FY2019, located at the bridge crossing at US 77 south of Riviera. NRA field staff visited the site on April 15th. Salinity values again around the 67 PSU range (seawater is around 35 PSU) and the shallow waterbody (about 1 foot deep) resembled pea soup. Bacteria concentrations were very high on the site visit (>2,400 MPN), same as the last 2 quarters.



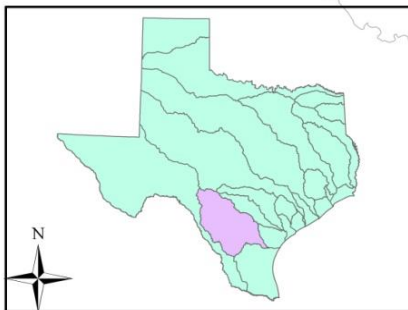
Outreach and Education

Classroom visits by NRA's Education and Outreach Program were all cancelled this quarter due to the school closings by the Governor's Office. For more information about outreach and education, contact slewey@nueces-ra.org.

Nueces River Basin

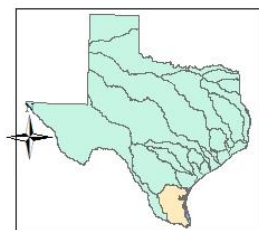
NRA Monitoring Stations

- NRA Routine Stations
- ★ NRA 24 Hour DO
- ▲ BCRAGD Stations



0 12.5 25 50 Miles

Monitoring Stations



 NRA Routine Stations

