



***Nueces River Authority***  
**Steering Committee and Stakeholder Update #3**  
**(3<sup>rd</sup> Quarter of FY 2018-2019)**  
**March -May 2018**

**June 8<sup>th</sup>, 2018**

**Routine Clean Rivers Program Monitoring**

Field staff from the Nueces River Authority conducted routine quarterly water quality sampling at all 35 river/reservoir stations and 8 coastal stations in the second quarter. No dissolved oxygen monitoring occurred this quarter due to a lack of sufficient streamflow in the middle Nueces and Atascosa rivers.

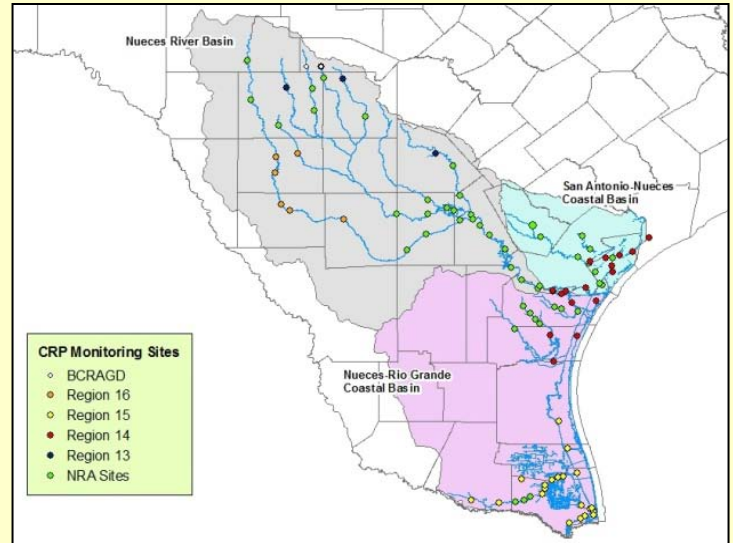


The Mission River in Refugio (Station 12944) was looking healthy during the monitoring visit in April.



## NRA CRP Coordinated Monitoring Meeting

The Annual Clean Rivers Program (CRP) Coordinated Monitoring Meeting was held on March 21<sup>st</sup> in Corpus Christi. Representatives from TCEQ, Texas GLO, University of Texas-Rio Grande Valley, Cameron County, City of Corpus Christi, and Bandera County River Authority and Groundwater District were all in attendance. In addition to coordinating CRP monitoring activities, the meeting also provided an overview of water quality concerns and impairments in the Nueces River Basin, Nueces-Rio Grande Coastal Basin and the San Antonio Coastal Basin.



## Los Olmos Creek

One of the discussion topics at the Coordinated Monitoring Meeting was the desire for a new sampling site on Los Olmos Creek. Located is Segment 2492, Los Olmos Creek is a tributary to the Laguna Salada (salty lagoon) arm of Baffin Bay. Site reconnaissance indicated a lack of public access to the tidal stream with the exception of the crossing at US77. NRA field staff hoped to locate a site further upstream in the above tidal portion but found only gates to private property. The USGS gauge at Falfurrias indicated that flowing water would be a rare occurrence there so NRA staff decided to add the station upstream of US77 just south of Riviera. The site is a heavily fished area with bats living under the bridge. The guanos were clearly visible on the bank (lower right). NRA staff will walk upstream and monitor near the train tracks to avoid the guano rich area below the bridge.



## Lake Levels

Percent capacity of the Reservoir System (Choke Canyon + Lake Corpus Christi) dropped from 47.1% to 41.3% of capacity during the 3<sup>rd</sup> 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>.

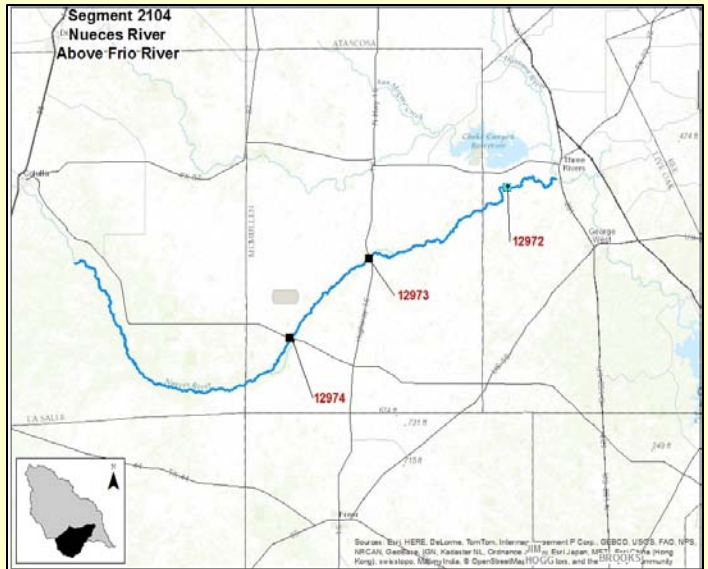
## Submerged Biota

The mysterious submerged aquatic species that was observed on the Nueces River in Live Oak County has been identified. Researchers from Dr. Zimba's lab at the Center for Coastal Studies at Texas A&M-CC identified it as a member of the *Cladophora* genus. *Cladophora* is a type of reticulated filamentous ulvophyceae (green algae). The *Cladophora* species can be a major nuisance causing major alteration to benthic conditions linked particularly with increased phosphorus loading.



## Nueces River Aquatic Life Monitoring (ALM)

The second sampling event for the Nueces River ALM was cancelled due to low flow in Segment 2104 – Nueces River above Frio River. NRA field staff assisted in the collaborative study between TPWD and TCEQ SWQM staff in the Spring of 2017 when streamflow levels were in the 30 CFS range. However, a lack of significant rain in the watershed resulted in streamflow below the 7Q2 (1.0 CFS) since January. Data from the first ALM sampling event showed great promise for removing this segment from its concern for impaired macrobenthic and fish community status.



## Outreach and Education

It was a very busy quarter for NRA's Education and Outreach Program. Numerous springtime events including Earth Day/Bay in Corpus Christi, Medina and Jim Wells Ag Day, as well as numerous classroom visits in the middle and upper Nueces River Basin brought the quarterly outreach total to 5,644 people. NRA's watershed model. For more information about outreach and education, contact [slewey@nueces-ra.org](mailto:slewey@nueces-ra.org).

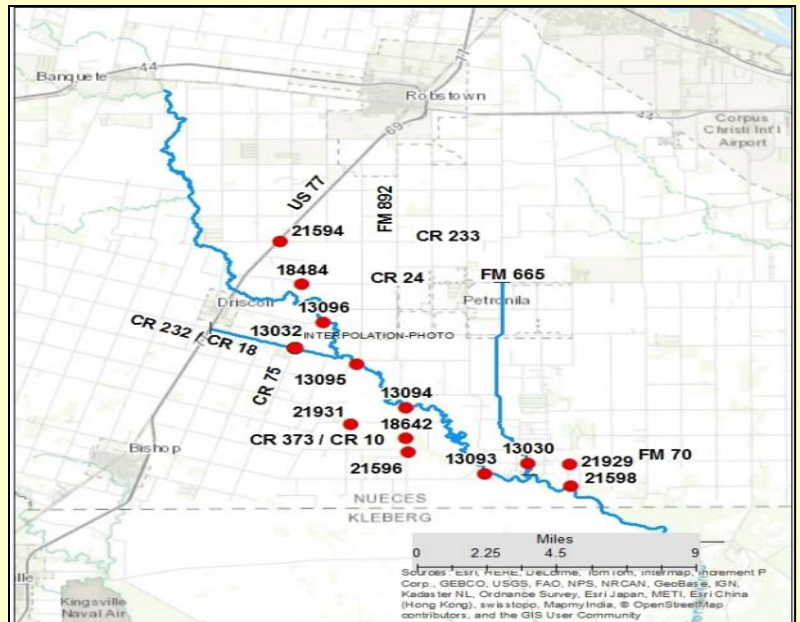




## Petronila Creek Tributary Study

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 2018-2019, 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) and show an increasing specific conductance trend as it flows downstream. Data from May had the highest and second highest specific conductance readings ever recorded by NRA for an allegedly freshwater stream, 82,000 and 86,500  $\mu\text{mhos}$  (seawater is around 52,000  $\mu\text{mhos}$ ). It's likely that a combination of very low flow combined with high evaporation rates resulted in hypersaline conditions at a number of sites. (Disclaimer – Data has not been validated or input into the SWQMIS Database.)

Site #	March ( $\mu\text{mhos}$ )	April ( $\mu\text{mhos}$ )	May ( $\mu\text{mhos}$ )
21594	9,600	11,100	6,500
18484	20,300	41,200	39,800
13032	11,600	43,900	64,600
13096	<b>5,630</b>	<b>23,000</b>	<b>24,600</b>
13095	<b>6,890</b>	<b>21,500</b>	<b>23,300</b>
21931	dry	dry	dry
13094	<b>8,270</b>	<b>21,500</b>	<b>24,800</b>
18642	22,700	dry	86,500
21596	dry	dry	dry
13093	<b>6,200</b>	<b>11,600</b>	<b>19,300</b>
13030	11,100	25,700	39,800
21929	13,800	dry	dry
21598	17,400	53,400	82,000



## Fish Kill on Nueces River Tidal Segment

Nueces River Authority Staff accompanied Texas Parks and Wildlife Department Spills and Kills staff member Alex Nunez on a fish kill investigation on the tidal portion of the Nueces River near Labonte Park. On May 7<sup>th</sup>, NRA staff accompanied TPWD with taking salt and dissolved oxygen readings as part of the investigation. Fish affected were all freshwater species, mostly carp and catfish that had been trapped in the tidal portion, most likely after a freshwater passthru. Dissolved oxygen levels were in the normal range. It was determined by TPWD that the cause of the fish kill was high salinity.



## Oso Bay & Oso Creek TMDL and IP

Since 2002, Oso Creek (Segment 2485A), which flows 28 miles to the confluence of Oso Bay in Nueces County has been identified as being impaired for having bacteria concentrations that exceed state water quality standards. Since 2003, the TCEQ and the TSSWCB have conducted numerous studies of bacteria sources and quantities in the Oso Creek watershed. Based on the results of those studies, a Total Maximum Daily Load (TMDL) and an Implementation Plan (IP) for Oso Creek is being developed to address the contact

recreation impairment. Staff from the Center for Coastal Studies at Texas A&M University – Corpus Christi and the Coastal Bend Bays Foundation is disseminating information to the public.



Meetings take place once a quarter and are held at the South Texas Botanical Gardens in Corpus Christi. You can learn more about the Oso Bay TMDL and/or the Oso Creek Watershed Public Outreach at the TCEQ project page: <http://www.tceq.texas.gov/waterquality/tmdl/67-osobaybacteria.html>;

## Valley Monitoring

NRA currently monitors five sites down in the Rio Grande Basin (see page 10 for the map of stations). Three sites (16445, 13079, and 13080) are located on the above tidal portion of the Arroyo Colorado (Segment 2202) and two are tributaries of the Laguna Madre (Segment 2491). These two tributary sites are new stations in the newly designated Segment 2491C; the Hidalgo Main Floodway (CRP site 22003) and the Raymondville Drain (CRP site 22004). All five sites were visited on May 1<sup>st</sup> a few days after a 1" rain fell in the area. (Disclaimer – Data has not been validated or input into the SWQMIS Database.)



Site	E. coli	Ammonia	TKN	Total Phos	Nitrate/Nitrite	Chlorophyll a
13079	150 cfu	0.024 mg/L	2.87 mg/L	0.727 mg/L	4.48 mg/L	32.4 µg/L
16445	250 cfu	0.036 mg/L	2.86 mg/L	0.728 mg/L	4.00 mg/L	28.8 µg/L
13080	290 cfu	0.0583 mg/L	3.00 mg/L	0.857 mg/L	4.79 mg/L	35.4 µg/L
22003	120 cfu	<0.02 mg/L	3.63 mg/L	0.755 mg/L	4.71 mg/L	91.5 µg/L
22004	220 cfu	<0.02 mg/L	2.75 mg/L	0.123 mg/L	2.34 mg/L	33.3 µg/L



## 12U

Don't you love it when the community comes together to try to make something right again? Daniel Converse, from the Port of Corpus Christi and manager of the Coastal Bend Bays Foundation, organized a litter cleanup for Port Green Day. A big thank you goes out to all those that roll up their sleeves and get the job done. Nueces River Authority can help provide bags for the next clean up – free of charge. Contact Sam Sugarek if you need them. [ssugarek@nueces-ra.org](mailto:ssugarek@nueces-ra.org).

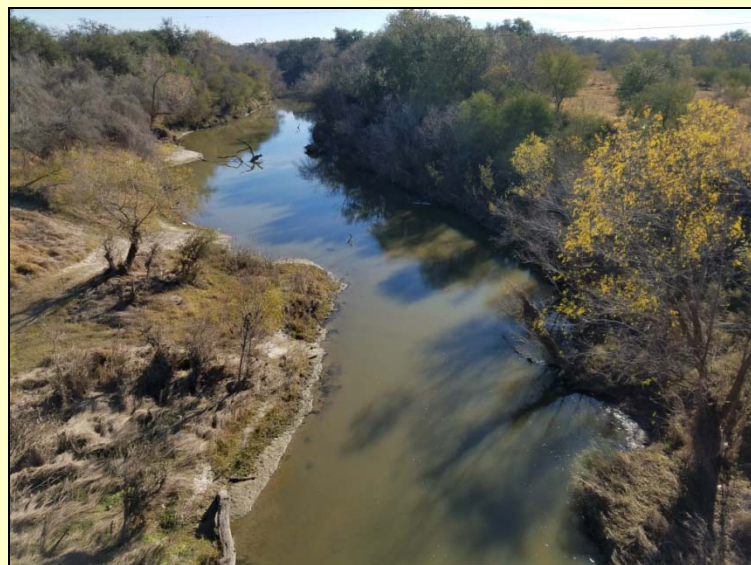


## Nueces River Watershed Partnership – Implementation of the Lower Nueces River Watershed Protection Plan (WPP)

Funding for the NRA, as watershed coordinator to seek funding for and initiate implementation of the WPP, is provided by the TSSWCB through a §319(h) grant from EPA. Following is a brief update on the status of the implementation of some of the management measures identified in the WPP that are currently underway and other proposed work in the watershed.

### *OSSF Repair and Replacement*

As of May 2018, 43 OSSFs within the watershed have been pumped out and inspected. Fourteen were found to be in good working order. Of the remaining 29 systems, 19 need to be completely replaced and ten need some repair work. Twelve replacements and eight repairs have been completed. The program, funded by the TCEQ through a §319(h) grant from EPA, will continue through February 2020 or until the budgeted funds are spent.



### *OSSF Conversion*

This project will result in a detailed plan and cost estimate to connect some existing homes with OSSFs to the City of Corpus Christi's existing infrastructure. This project is also funded by the TCEQ through a §319(h) grant from EPA. A stakeholder meeting is scheduled for July 19, 2018, from 6pm to 7pm at Calallen's Magee Elementary School cafeteria, 4201 Calallen Drive. The City will inform the residents of the draft study results.

### *Coastal Management Program (CMP) Cycle 24*

The City of Corpus Christi, Nueces County, Texas A&M AgriLife, the Local Emergency Planning Committee, Coastal Bend Bays and Estuaries Program, and NRA are partnering in CMP proposal to mitigate nonpoint source pollution in the Nueces River. The project is being supported by the Texas Commission on Environmental Quality to aid in the Clean Rivers Program. The proposed CMP project strives to establish a baseline of water and soil parameters through qualitative and quantitative data collection. Initial research will focus on assessing the overall health of the wetlands to determine if additional measures, such as partial or complete wetland restoration, are needed to control and/or prevent pollution. Research would include collecting analytical data on water quality, benthic species (water bottom dwellers), entomology (bugs), ichthyology (fish), ornithology (birds), vegetation, and soil. An educational campaign that includes informative signage throughout the park, pesticide and fertilizer information and a Best Management Practice document will also be created through this project.

The next stakeholder meeting will be scheduled for some time in Fall 2018. For more information about the Partnership and the WPP, visit <http://www.nuecesriverpartnership.org> or contact Rocky Freund at (361) 653-2110 or [rfreund@nueces-ra.org](mailto:rfreund@nueces-ra.org).

# Nueces River Basin

## NRA Monitoring Stations

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





## San Antonio-Nueces Coastal Basin



## Nueces-Rio Grande Coastal Basin

### Monitoring Stations

◆ NRA

