

Nueces River Watershed Partnership

September 2014

To improve and protect the water quality of the Nueces River Watershed so that the river is restored and preserved for current and future generations

Water Quality Analysis

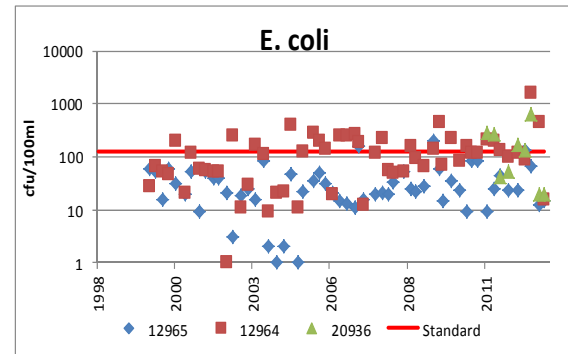
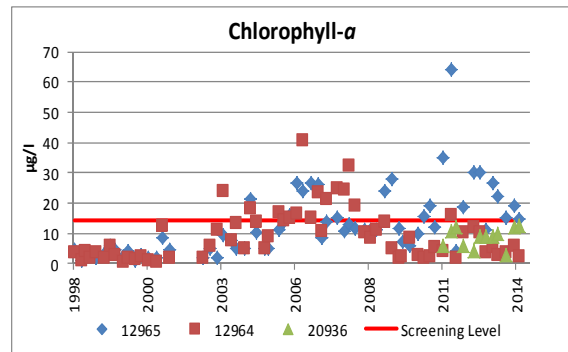
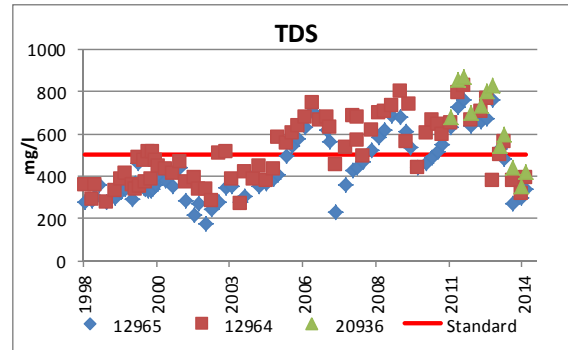
The Nueces River below Lake Corpus Christi is on the State's 303(d) list of impaired waters for total dissolved solids (TDS). The average exceeds the criteria of 500 mg/l. The segment is also listed as having a concern for chlorophyll-a due to the number of samples exceeding the 14.1 µg/l criteria.

The upper graph on the right depicts the measured TDS concentrations and the middle graph depicts the measured chlorophyll-a concentrations at the three Clean Rivers Program monitoring sites along the river. The data were collected from January 1998 through July 2014. 12965 is located at SH 359, 12964 at FM 666, and 20936 at Hazel Bazemore Park.

An increasing trend in TDS levels has been observed. The higher values correlate to times of low rainfall periods as seen with the readings during 2011, one of the driest periods on record. High levels of TDS can add additional water treatment expenses.

The concentrations of chlorophyll-a also show an increasing trend at 12965. Concentrations at 12964 were showing a similar trend until 2008, but have since returned to levels that mostly meet the criteria. High levels of chlorophyll-a can indicate increased vegetation which can lead to low dissolved oxygen levels.

The geometric mean of the *E. coli* concentrations at each station increase from upstream to downstream, but meet the water quality criteria (bottom graph). There is also an increasing trend at 12964. Work is being done to identify likely sources and prevent further degradation.



History Lesson

The first water pumping plant on the Nueces River, located 13.2 miles upstream from the mouth of the river was completed by the Corpus Christi Water Supply Company and commenced pumping on June 17, 1893. It was soon found that salt water from Nueces Bay contaminated the water in the river channel thereby making it unfit for city use. A temporary dam, constructed of 2,000 to 3,000 sand-filled sacks laid across the river about ten miles upstream of the mouth, prevented normal tides from backing up to the plant. The sack dam had to be replaced after floods. After continued replacement, the Corpus Christi Water Supply Company obtained a right to construct a permanent dam across the river to create a reservoir by an act of the Texas Legislature in 1895. The Calallen Dam, the original, permanent saltwater barrier dam, located at its current location, near what is now LaBonte Park, was completed in 1898.



Nueces River Authority



Source: Atlee Cunningham's
Corpus Christi Water Supply Documented History, 1852-1997

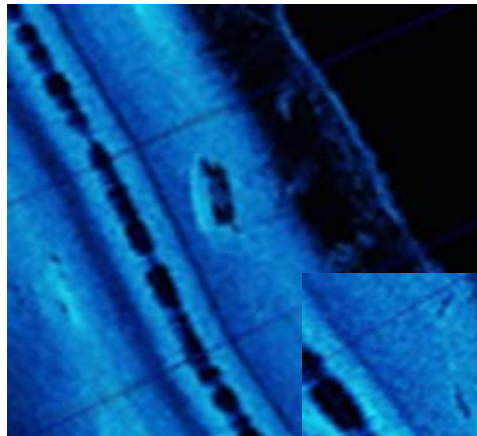
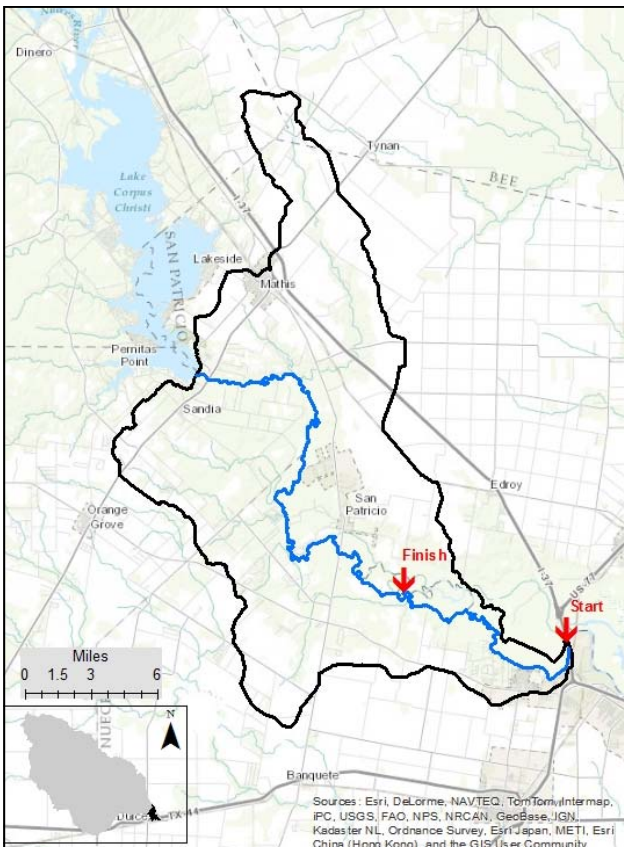
www.nuecesriverpartnership.org

Blackland Research Center Side Scan Sonar of Segment 2102 of the Nueces River

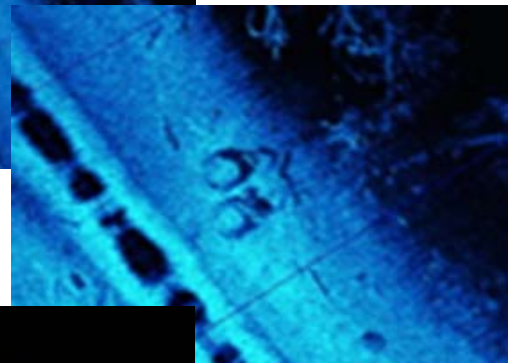
For two days during the week of April 14, 2014, Blackland Research Center (BRC) at Texas A&M University, led by Jason McAlister, conducted a side scan sonar survey of a portion of the Nueces River. The project is one of the tasks identified for the Development of a Watershed Protection Plan for the Lower Nueces River by the Nueces River Authority (NRA), funded by a Texas State Soil and Water Conservation Board 319 grant.

BRC started at the Saltwater Barrier Dam in Corpus Christi and traveled upstream approximately 12 miles - as far upstream as water depth would allow. The end location was a short distance upstream of the cable bridge located at $-97^{\circ}42'13.5''W$, $27^{\circ}53'54.55''N$. They were able to get upstream of Nueces County CR 73, a primary area of concern.

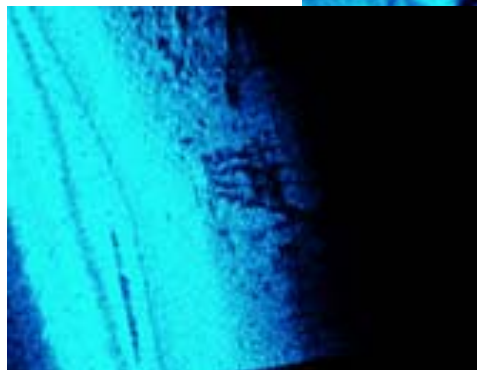
Mr. McAlister presented a brief summary of some of his findings at the Nueces River Watershed Partnership Meeting on July 22, 2014. Over 200 objects were tagged. Identified objects included a boat and possible ATV. A subcommittee will meet in late September to review and identify as many of the objects as possible. Using this information, the committee will prioritize items that need to be removed.



Boat



Possible ATV



Unidentified Object