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Calallen Community Hears from Experts at 1st Nueces River Tidal Segment Stakeholder Meeting

One tried and true way to go about gathering a south Texas crowd, offer a platter of good BBQ. Add in some community concern for environmental engagement and its moths to a flame. That was the key mixture for this convening of community members, city officials, and scientific researchers to discuss causes for worry surrounding the current condition of the tidal segment of the Nueces River. As with many instances of declining water quality, many variables can contribute to the root causes, making a collaborative solution between all stakeholders a must.

Setting the tone for the meeting, long time resident of the tidal segment, John Schroeder described the gradual degradation his family has witnessed on the stretch of river below the Calallen Reservoir (aka saltwater dam) that was constructed to keep the salty inflow from Nueces Bay out of the non-tidal segment of the Nueces River and the public water supply. Pictures of thousands of dead fish and mystery sheens floating through this tidal segment highlight what could become common place if not addressed. Turmoil has surrounded this dam for decades, surviving a civil suit filed in 1964 that disputed the amount of water being used for irrigation purposes instead of municipal and domestic uses. Diversion of water flow at this point of the river has been in practice since 1921, providing the Robstown community with their sole source of water that has become an inadequate supply alongside exploding rates of population increases in the area.



Salt Dam in Calallen courtesy KRIS

The diversion at the saltwater dam has remained a commonly accused cause of water quality concerns, an easy target sitting in plain sight off HWY 37. With representatives from the Coastal Bend Industry Association, City of Corpus Christi, Texas Commission on Environmental Quality, Nueces County, Port of Corpus Christi, Texas Parks and Wildlife Department, Nueces River Authority, Harte Research Institute, Coastal Bend Bays and Estuaries Program and the local community in the room, the issues that lay further out of sight, and in turn out of mind, were brought to the table and explained by experts on the topic.

Dr. Terry Palmer, from the Harte Research Institute, started the conversation by providing a foundational understanding of the characteristics of tidal streams and how they function, explaining that by nature of existing within the swing of the salty tide and freshwater in-flow, they are typically dynamic features of the landscape.

While this may explain some of the fish kills in the area, Alex Nunez with the Spills and Kills team of Texas Parks and Wildlife Department detailed the fish kill events observed along this stretch of river over the previous decade and their causes. Given the stressed state of tidal segments, a healthy system might exhibit two or three fish kill events in a ten-year span, while this section of the Nueces has seen seven in the past ten years. Through monitoring and sampling directly after reported kills they've been able to identify the sources as extreme freezes, shifting salinity levels, dissolved oxygen that are either too low or too high, and algal blooms.

Though we can't stop mother nature from sending a cold snap our way, Sam Sugarek took the floor to clear the air, or water if you will, surrounding the reduced inflows and Pass-thru Programs that affect the tidal segment. Sam took a historical look at the water levels flowing to the dam, how much is diverted, and where it heads too next. The common colloquialism that "things just aren't as good as they used to be" is often uttered when juxtaposing urban development with quality of natural resources, but a look at long term monitoring data shows that may not be the case. The amount of water that is released over the dam is largely dependent on rainfall and flooding within the watershed, which spans over 350 miles into the Texas Hill Country, laying out a three-week journey to Choke Canyon before eventually making it down into the tidal segment. One interesting observation was that while the rainfall, and subsequently the reservoir water levels, have decreased over the past 30 years, an increase in chlorophyll-a has been observed which could be helping fuel algal blooms.



After hearing descriptions and explanations from all the presenters, a feeling of doom and gloom had slowly crept over the room until Dr. Michael Wetz, from the Harte Research Institute, shined a silver lining when describing his experience addressing similar concerns and the restoration of Baffin Bay. While the Baffin Bay complex encompasses a much larger and less urbanized area, a stakeholder group that Dr. Wetz co-chairs with Dr. Stanzel at CBBEP has had several recent successes in terms of addressing nutrient issues that are negatively impacting the bay. As with the Nueces River group that met in Annaville, that group started by listening to community concerns at the home of a concerned community member and built out a scientific research program from there to gather data and identify solutions. Wetz also talked about the much smaller scale that the Nueces River issues are operating on, meaning that solutions are probably closer at hand and can be tackled in a shorter timescale than in Baffin

Since the Baffin Bay Stakeholder Group has been active, a culture of citizen scientists and stewards of the resources has developed that will work to inspire future generations to interact consciously with the resources in the watershed. The future of the Nueces River Tidal Segment could take a similar shape as the stakeholder group is able to grow and improve the understanding of our connection to the rivers, deltas, estuaries, bays, and one another. This meeting was the first step of a long journey towards recovery, with a second stakeholder meeting coming later this summer to discuss next steps.

To be added to the Nueces Tidal Segment Stakeholder Group mailing list for updates, email your name to qhendrick@cbbep.org with subject "Nueces River Tidal Segment".

The Coastal Bend Bays & Estuaries Program is a non-profit organization dedicated to protecting and restoring bays and estuaries in the 12-county region of Texas Coastal Bend. CBBEP is partially funded by the Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency. For more information about the Coastal Bend Bays & Estuaries Program, contact Quinn Hendrick, 361-336-0305 or qhendrick@cbbep.org. Published in May 2023.
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