

Minutes of Workshop Meeting
October 7, 2020

The Navigation and Canal Commission of the Aransas County Navigation District met in a Workshop Meeting with Malcolm Dieckow presiding. Commissioner Tommy Moore was present. Commissioners Judith Vlasek, Tony Dominguez and Mickey Casterline were not present. Among those guests present was Harbor Master Keith Barrett.

The Guest Speaker was Jeffrey Turner. Among the guests were members of the City Council and members of the Aransas County Commissioners' Court along with many Aransas County concerned citizens.

Chairman Dieckow convened the meeting. There was no quorum.

IV. OPEN WORKSHOP MEETING:

The purpose of the Workshop Meeting was to allow Jeffrey Turner to respond to the District's concerns as to the elevated levels of enterococci in Little Bay. This bacterial source-tracking project was designed to identify probable sources of fecal contamination. The main objectives of this study include 1) conducting an analysis of historic enterococci data, 2) monitoring enterococci concentrations for a period of seven months, 3) quantifying host-associated molecular markers to determine probable sources of fecal pollution (i.e., humans, canines, or gulls), and 4) characterizing the overall bacterial community composition through 16S rRNA gene sequence analysis.

Study findings indicated that enterococci concentrations were historically higher inside Little Bay compared to Aransas Bay.

Tule Lake (the site located closest to a wastewater treatment plant) continuously exceeded the EPA's recreational water quality limit, while the Little Bay and Aransas Bay sampling sites exceeded the limit occasionally. Importantly, the maximum enterococci concentration at Tule Lake (24,196 MPN 100 mL⁻¹) exceeded the EPA single-sample standard criteria by 233-fold. The findings of this study also showed that the canine and gull molecular markers were detected consistently, although spikes in the abundance of the human marker (gene copies 100 mL⁻¹) far exceeded the maximum abundance of the canine and gull markers. The abundance of these markers was not correlated with enterococci concentrations, indicating that the sources of enterococci pollution remain unknown, but these sources do contribute to bacterial pollution in Little Bay. Rainfall events were not correlated with the increased detection of enterococci or host-associated markers, but only 2 sampling events followed rainfall. Regardless, salinity was a driver of shifts in the overall bacterial community composition.

Recommendation: Future efforts to remediate the bacterial pollution in Little Bay focus on four best management practices (BMPs). First, Wastewater Effluent flowing into Tule Lake should be diverted through a larger riparian buffer that terminates into Aransas Bay. Second, a pet outreach program should aim to limit canine fecal waste in surrounding areas. Third, the loitering of gulls should be addressed through policies that prohibit the feeding of gulls and limit improper food waste disposal. Fourth, the repair and maintenance of sanitary sewer systems and septic systems should be ensured to limit episodic leaks that contributed to spikes in human fecal pollution.

V. CLOSE WORKSHOP MEETING

VI. ADJOURNMENT: There being no further business, the Workshop Meeting adjourned.