



## Science and Monitoring Workgroup

April 28, 2010 2:00 PM

**Workgroup Members Present:** Winston Denton (TPWD), Linda Broach (TCEQ), Ann Lutringer (Public), Scott Jones (GBF), Diane Humes (Public), DeAnne Meeh (UTMB), Amanda Ross by phone (TCEQ), Lisa Miller-Marshall (GBF)

### Discussion:

Amanda Ross provided handouts with the existing data summarized and the most important information highlighted. Each handout summarizes two segments within the TMDL and lists the bacteria concentrations, the WWTF permits within those segments, landuse, any information regarding sources of bacteria, and a map with the locations of the WWTFs.

Linda Broach discussed graphs that she had prepared. She had plotted existing data to look at how exceedances occurred given the salinity. Generally the Gulf of Mexico has a salinity of 35 and freshwater has a salinity of 0. The expectation is that there would be an inverse relationship between bacteria concentrations and salinity. When salinity is high, bacteria concentrations are low and when salinity is low, the bacteria concentrations are high. Based on this relationship, a hypothesis can be made to explain the sources of bacteria.

Because fresh water lowers the salinity, low salinity levels with high bacteria concentrations might indicate that the bacteria is coming from runoff. If the salinity is high with high bacteria concentrations, the source of bacteria might be boater sewage or birds.

Many of the sampling sites showed this inverse relationship between salinity and bacteria concentrations. In some areas, like around Deer Island, the bacteria concentrations were high at all salinity levels. These are the types of areas that need more research. The high bacteria concentrations could be from birds or from a leak in a wastewater pipe.

Linda plans to further study this relationship as well as look at the relationship between bacteria concentrations and the time of year, and do a spatial analysis of the data. She would also like to focus on the samples around Bolivar to look for a link with OSSFs as a possible source for high bacteria concentrations.

Linda would like everyone in the group to look at the handouts and data and email her with questions that could be answered with the data.

**Next meeting:** May 25, 2010 at 2:00 PM