

Company Organization Description

The Trinity River Authority (TRA) is an agency responsible for the management, maintenance, and distribution of the water that makes up the Trinity River in Texas. With their headquarters in Arlington, Texas, the TRA is a very large agency that has many operations following the Trinity River. The TRA has wastewater treatment facilities, water treatment and distribution facilities, and water storage facilities such as Lake Livingston.

This internship experience was completed at the Lake Livingston Project within the southern region of the TRA. Although Lake Livingston is a water storage facility, the TRA Lake Livingston Project is responsible for not only the water within the lake itself, but also the water in the Trinity River as far north as Crocket, Texas and as far south as the Trinity River discharge into the Trinity Bay near Anahuac, Texas (see map to right). As a part of its water quality program and participation in the Clean Rivers Program, the TRA Lake Livingston Project also permits and inspects all residential wastewater treatment systems within 2,000 feet of the water's edge.



The Environmental Intern Responsibilities

Every summer, the TRA Lake Livingston Project hires an environmental intern for the water quality department. As the 2012 intern, my responsibilities were in the following areas:

Lab Responsibilities:

- Executing various tests on water samples such as testing for *E. Coli* and other fecal bacteria, metals, biological oxygen demand, and more
- Maintaining a chain of custody for all samples that enter the lab
- Testing drinking water samples brought in by other water suppliers and members of the public

Field Responsibilities:

- Collecting weekly water samples from Lake Livingston, the Trinity River, water treatment plants, and public water supply sources owned by TRA
- Collecting monthly water samples from the Trinity River Delta into the Gulf of Mexico
- Monitoring wastewater runoff and prevent overgrowth of invasive aquatic plant species in Lake Livingston

Internship Highlights



Water Hyacinth and Water Lettuce found in the Lake Livingston Reservoir



Spraying to kill Water Hyacinth that has completely covered a narrow creek feeding into Lake Livingston



Photos showing the Lake Livingston dam, built by TRA, and the water below the dam in the Trinity River (left) and above the dam inside Lake Livingston (right)

Relationship to Career Goals

This experience with the Trinity River Authority allowed me to gain experience in water sampling, testing, and monitoring. Also, I learned about several different ways that waste water is treated and released back into the environment.

References

Photos taken by myself during my summer 2012 internship at TRA- Lake Livingston Project

Background information about TRA obtained from www.trinityra.org

Acknowledgements

Mr. Mike Knight, Water Quality Supervisor of the TRA Lake Livingston Project, and Ms. Thresa Aguayo, Senior Biologist of the TRA Lake Livingston Project were both very welcoming and supportive to me during my time at TRA. They both made sure that my internship was as educational as possible. Dr. Wilkinson of TAMU BESC department was my faculty advisor during the internship and helped to guide me in the right direction to get the most out of my experience. **Sponsors for high impact experiences for BESC and the BESC poster symposium include the Department of Plant Pathology and Microbiology, the College of Agriculture and Life Sciences, the Office of the Provost and Executive Vice President for Academic Affairs.**



Sterile fingerling grass carp are introduced to areas vulnerable to being inhabited by invasive plant species as an effective means of biological control. They grow to large sizes (left) and eat the vegetation, but do not reproduce and become overpopulated or threatening to natural vegetation