THE POPULATION OF THE NORTH TEXAS REGION IS PROJECTED TO DOUBLE BY 2060. Population growth drives the need for a clean and reliable water supply. Tarrant Regional Water District (TRWD) (George W. Shannon Wetlands Project, in partnership with Texas Parks and Wildlife Department’s Richland Creek WMA) and North Texas Municipal Water District (NTMWD) (East Fork Water Reuse Project and the John Bunker Sands Wetland Center, in partnership with the Rosewood Corporation) worked together with Alan Plummer Associates to create innovative, efficient, and sustainable approaches for the natural filtration of water through the development of constructed wetlands.

Each wetland has the ability to divert 95 million gallons of treated wastewater flows per day from the Trinity River, coming downstream from the Dallas-Fort Worth Metroplex. The water is pumped into the wetland to be naturally filtered through a series of sedimentation basins and wetland cells filled with beneficial aquatic plants—removing on average 95% of the sediment and 50% to 80% of nitrogen and phosphorus. Once the water makes its way through each wetland, it is pumped to a reservoir, treated to drinking water standards, then delivered to consumers for use (NTMWD→Lavon Lake and TRWD→Richland Chambers Reservoir).
Combined, the projects create over 4,000 acres of wetland and supply raw water for approximately 3.8 million people in North Texas. In addition, the wetlands provide a wide array of ancillary benefits which include: optimal habitat for wildlife—including hundreds of avian species, educational and research opportunities for the community and schools, and recreational opportunities—including birdwatching, fishing, and hunting, that provide a positive economic impact for the region.

If location and planning permits, a constructed wetland is a cost-effective alternative to building a new reservoir and pushes back the need to construct additional water supply projects. The cost of raw water from new reservoirs being planned ranges from $0.41 to $1.12 per cubic meter ($1.55 to $4.24/1000 gallons).* In contrast, the cost of raw water from the wetland systems has ranged from $0.17 to $0.30 per cubic meter ($0.63 to $1.15/1000 gal).* Additionally, constructed wetlands occupy a fraction of the footprint and are permitted and constructed in a shorter timeframe than reservoirs.

IMPACT
- 4,000 wetland acres
- Water supply for approximately 3.8 million people
- Land for education, research, and recreation

Texan by Nature is working with Tarrant Regional Water District and North Texas Municipal Water District to spread educational awareness of the multitude of benefits that constructed wetlands provide. We would like to see these projects be a worldwide case study and example of sustainable options that other water providers have when seeking conservation-minded solutions to providing a clean and reliable water supply to their communities.

NEEDS
- **Awareness:** Increased educational awareness and visits to each site for tours and educational programming.
- **Partners:** Distance learning program that is accessible to all teachers in NTMWD and TRWD service areas.
- **Research:** Continued scientific research and education at each site.


For more information, visit texanbynature.org or contact us at programs@texanbynature.org or 512-284-7482.