LOWER TRINITY RIVER

The land begins to flatten-out on its approach to the Gulf of Mexico, enticing the river into lazy meanders that seem to set the pace of life for those who live around it. Robust cyprus trees decorated with spanish moss frame the shore while the eyes of a submerged alligator scan the surface for danger. Overhead, a Great Blue Heron streaks by, while in shallower waters the brilliant red and pink of Roseate Spoonbills contrast sharply with the surrounding verdant landscape.

This setting might well describe many portions of the Trinity River below Lake Livingston; a relatively small and unimpacted portion of the river. It is from this segment that the city of Houston, via the Lynchburg Canal, obtains the majority of its surface water.

Physical Description

The Lower Trinity subwatershed begins at the Lake Livingston dam in Polk and San Jacinto Counties and ends in Chambers County before emptying into Galveston Bay. This subwatershed has 19 permitted discharges and includes segments 0801 and 0802. The predominate vegetative province is Piney Woods with Coastal Prairie and Marsh along the coast. Land use is almost entirely rural, with the largest urban area being the city of Liberty.

Draft 2002 305(b) Results

Segment	Description	Impairments/Concerns/Threats
802	Trinity River below Lake Livingston	Aquatic Life (uc)
801	Trinity River Tidal	Not Assessed

ns—non-support; ps—partial support; uc—use concern; c—concern; t—threatened

Water Quality

In general, the water quality of this subwatershed is very good. However dissolved oxygen was noted as a concern in the draft 2002 305(b) Report and fecal coliforms have historically been discussed as potential problems. Although DO has been noted to decrease as one proceeds downstream towards Trinity Bay, it is believed that this is a natural phenomenon as no point and few non-point sources exist in this portion of the basin. Furthermore, water released from Lake Livingston, which constitutes the majority of the flow in the river, is of very high quality.

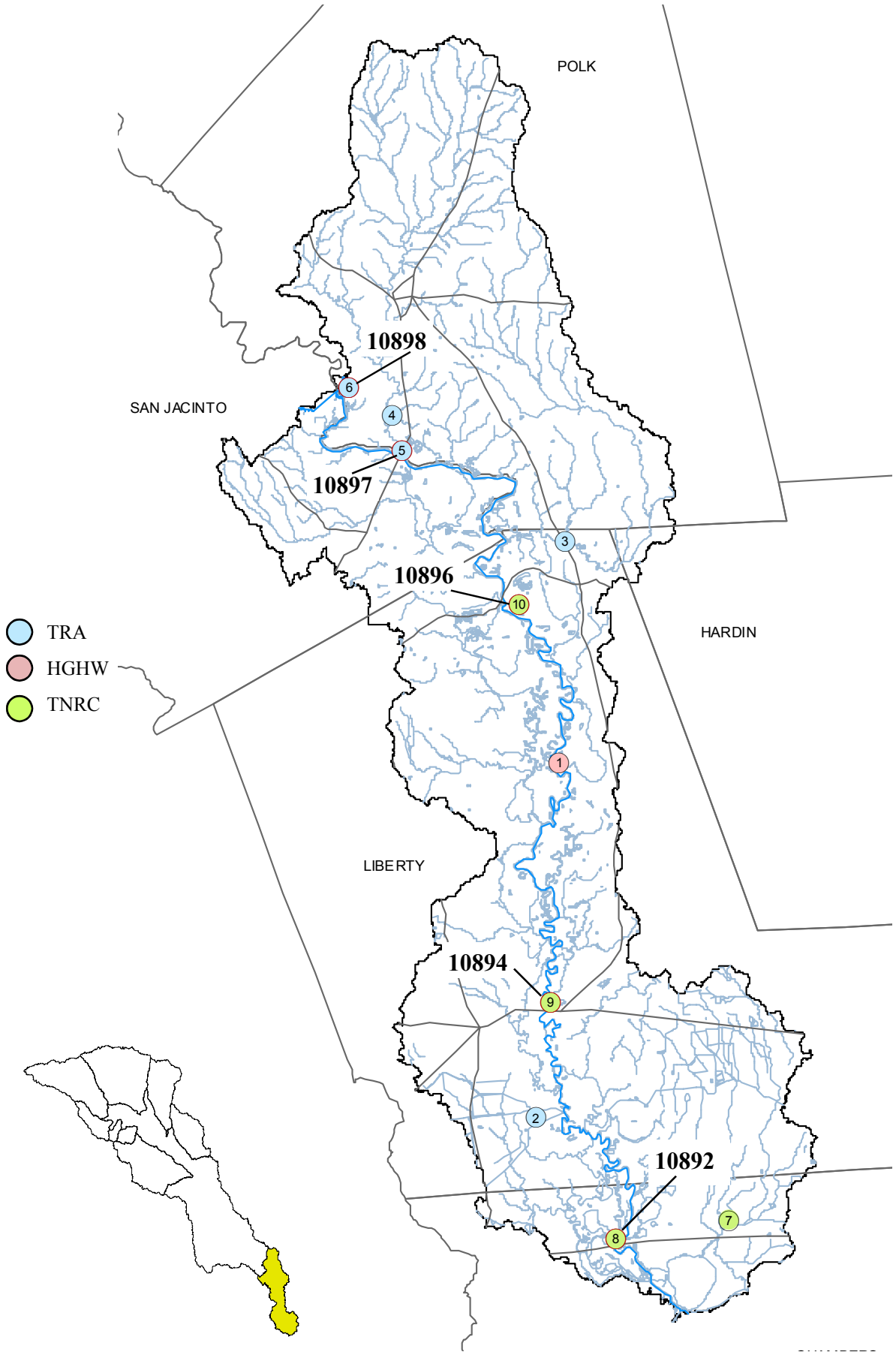
In regards to fecal coliforms, a recent special study looking for potential sources of bacterial contamination failed to find any significantly elevated concentrations. In addition, data reviews have found a strong connection between previously recorded elevated concentrations and high flow events, suggesting that occasional high levels are natural.

A fisherman tries his luck in the Trinity River below Livingston Dam

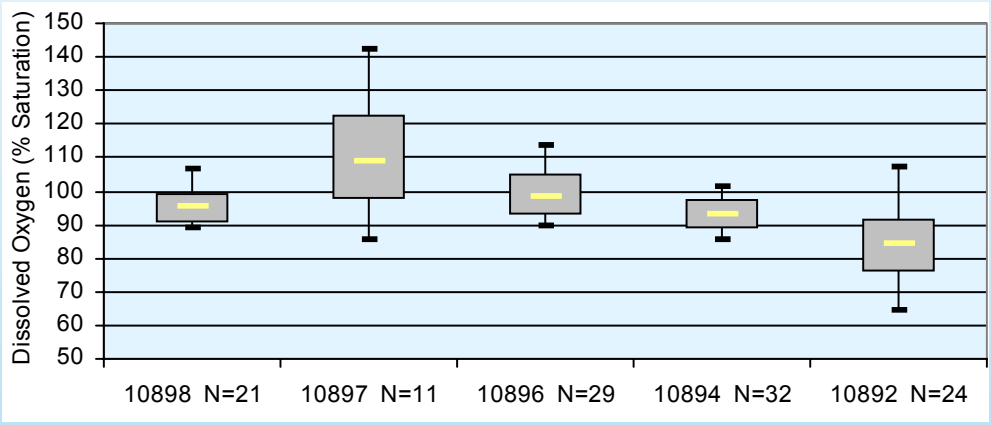
Special Studies

As mentioned in the above paragraph on water quality, a special study was conducted to investigate potential sources of bacteriological contamination, such as leaking septic systems, malfunctioning treatment plants or runoff

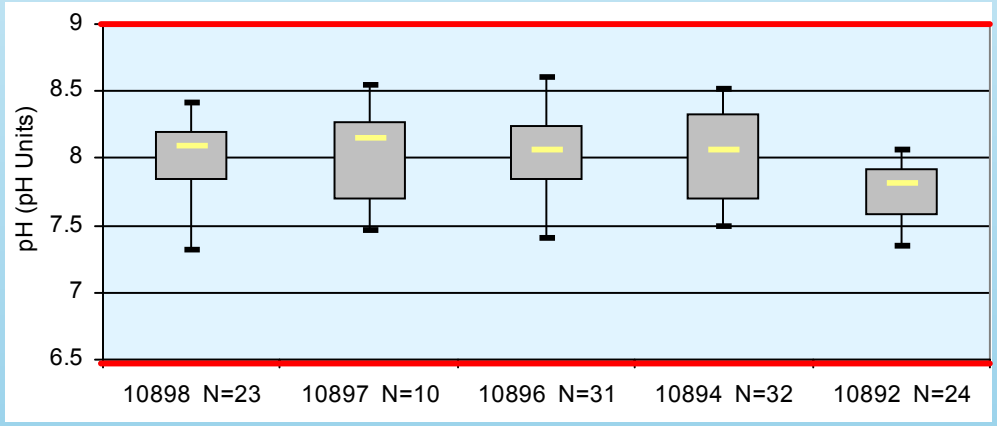
Lower Main Stem Subwatershed



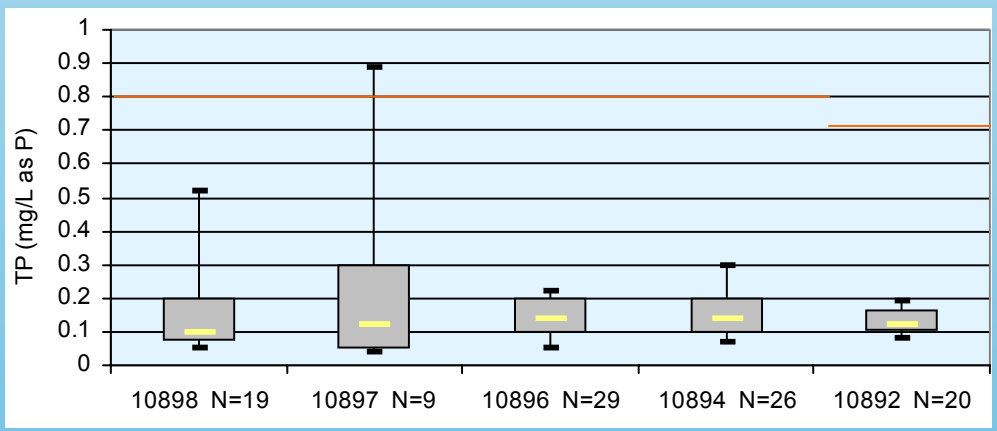
Water Quality Overview



The water quality of this segment is very good. A gradual decreasing trend can be seen in dissolved oxygen from station 10897 to station 10892. As there are no known significant sources which could reduce in stream dissolved oxygen in this portion of the river, it is likely that this decrease is the result of natural conditions as the river flattens out as it nears Trinity Bay.

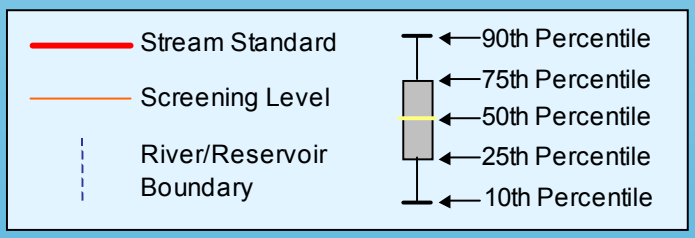


pH was always within acceptable limits, never dropping below 6.5 or rising above 9 standard units.



Nutrient concentrations, as indicated by TP, do not appear to be of concern in this segment. Although the 90th percentile of TP at station 10897 was greater than the screening criterion, the 75th and median values were well below it.

KEY



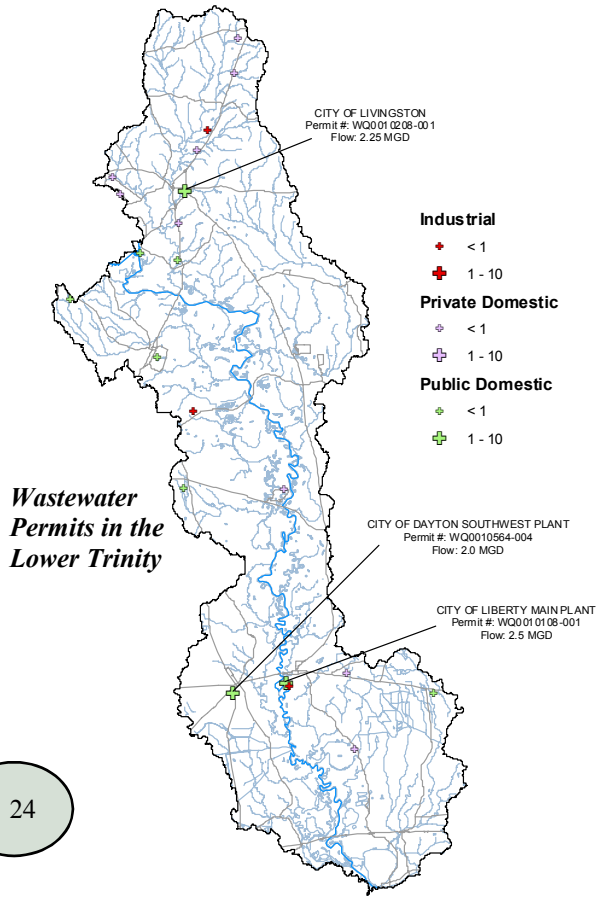
Stations presented in hydrologic order
N = number of measurements

from agricultural operations. Towards this end several surveys were made during base flow conditions along the river from just below the Lake Livingston dam (the upper most portion of the subwatershed) to Liberty. During these trips, samples were collected and analyzed for the presence of bacteria, specifically E. coli. The surveys failed to find any consistently high levels of bacteria.

Public Outreach

The Trinity River supports the efforts of the Upper Texas Cost Waterborne Education Center by purchasing equipment and other necessities. For a detailed explanation of this public outreach effort, see the adjacent essay on this page.

TRA's Kristie Munoz holds a paddle fish rescued from a small pool during construction below the Lake Livingston dam.



Wastewater Permits in the Lower Trinity

UPPER TEXAS COAST WATERBORNE EDUCATION CENTER

The State of Texas has hundreds of miles of coastline with the Gulf of Mexico. In addition to providing beautiful beaches for recreation, the coast's mud flats, salt marshes and mangrove forests provide rich and diverse habitats for many different types of animals. The Upper Texas Coast Waterborne Education Center is a grassroots effort begun in the late 1990's with the assistance of the Chambers-Liberty Counties Navigation District

with the mission of providing hands-on education to school children and adults alike as to the value of the important coastal ecosystems. The UTCWEC purchased and refurbished 2 forty foot Coast Guard buoy tenders. These vessels of which one, the Smith Point, is pictured above, serve as floating classrooms. Tours are arranged with existing agencies such as local camps and schools. The primary strategy of the UTCWEC is to get people out into the mudflats, grass marshes and other ecosystems where they can learn first hand to appreciate and understand them. Funding is provided to the Center from a number of sources including the Clean Rivers Program.

For more information, contact Joan Walker, Executive Director for the Center at (409) 267-3547.