



Lower Neches Basin Highlights

The Lower Neches Valley Authority (LNVA) has been involved in the Texas Clean Rivers Program (CRP) since the Clean Rivers Act was passed in 1991. The goal of the program is to maintain and improve the quality of water within each river basin in Texas through an ongoing partnership involving the Texas Commission on Environmental Quality (TCEQ), river authorities, other agencies, local governments, industry and citizens.

Through a watershed management approach, the CRP is designed to identify and evaluate water quality issues, establish priorities for corrective action, work to implement those actions, and adapt to changing priorities. The LNVA administers the CRP in the Lower Neches River Basin (Basin 6) and the Neches-Trinity Coastal Basin (Basin 7).

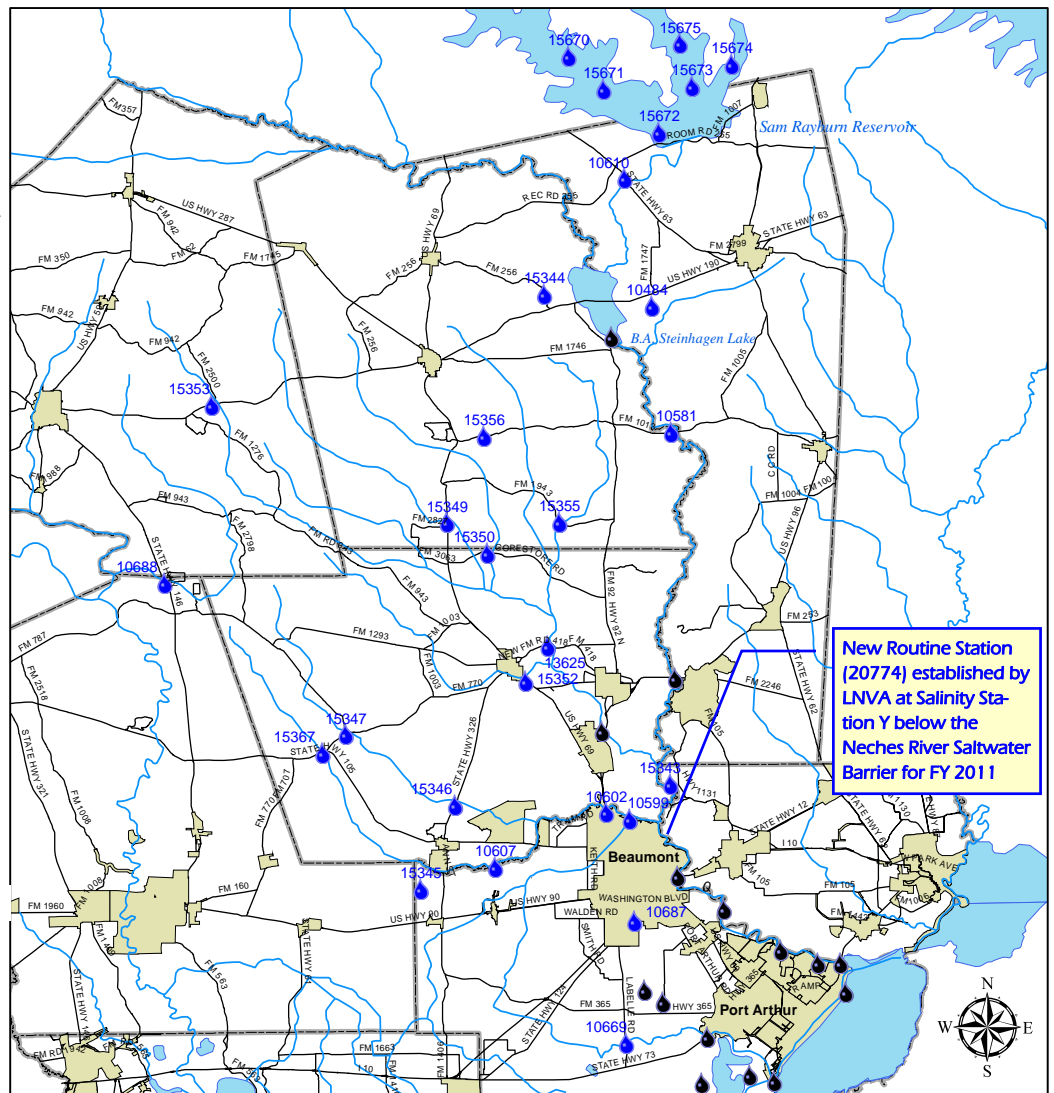
During 2010, LNVA was involved in many activities which support the objectives of the CRP in the Lower Neches River Basin. The Basin Highlights for 2010 include the following:

- ⇒ Completed 2010 Basin Summary Report
- ⇒ Completed TCEQ Metals in Water Special Study
- ⇒ Completed Organics in Water Sampling at Pine Island Bayou
- ⇒ Assisted with Pine Island Bayou UAA Study in August
- ⇒ Collected 24-hour DO Measurements for UAA Study
- ⇒ Operated Real-Time Station (CAMS 749) on Pine Island Bayou
- ⇒ Quarterly Water Quality Monitoring at 31 Routine Stations
- ⇒ Maintained NELAP Laboratory Accreditation
- ⇒ Expanded Volunteer Environmental Monitoring Program
- ⇒ Performed Public Education and Outreach Activities
- ⇒ Funded Book Covers & Major Rivers' Material for Area Schools

Station ID	LNVA Routine Monitoring Stations
10581	Neches River at FM 1013
15343	Neches River near Lakeview
10484	Sandy Creek at FM 777
15344	Wolf Creek at FM 256
10607	Pine Island Bayou at Old Sour Lake Rd
15367	Pine Island Bayou at FM 770
15345	Willow Creek at Unnamed Rd near Nome
10599	Pine Island Bayou at LNVA 1 st Lift Station
10602	Pine Island Bayou at US 69/96/287
15346	Little Pine Island Bayou at SH 326
15347	Little Pine Island Bayou at FM 770
10610	Angelina River at SH 63
13625	Village Creek at FM 418
15355	Beech Creek at FM 1943
15356	Turkey Creek at FM 1013
15349	Hickory Creek at US 69
15353	Big Sandy Creek at US 190
15350	Turkey Creek at Gore Store Road
15352	Cypress Creek at US 69
15670	Sam Rayburn Reservoir at USGS Site GC
15671	Sam Rayburn Reservoir at USGS Site FC
15672	Sam Rayburn Reservoir at USGS Site CC
15673	Sam Rayburn Reservoir at USGS Site AC
15674	Sam Rayburn Reservoir at USGS Site LC
15675	Sam Rayburn Reservoir at USGS Site MC
10669	Taylor Bayou at Labelle Road
10687	Hillebrandt Bayou at SH 124
10688	Menard Creek at SH 146

Legend

- LNVA Routine Stations
- TCEQ Region 10 Stations
- Reservoirs
- Cities
- Major Rivers & Tributaries
- Counties
- Roads





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Fish Consumption Advisory Issued for Portions of the Neches River

<http://www.dshs.state.tx.us/seafood/FishConsump.shtm>

On March 8, 2010, the Texas Department of State Health Services (DSHS) issued a fish consumption advisory for portions of the lower Neches River due to high levels of mercury in fish tissue. The DSHS Seafood and Aquatic Life Group (SALG) staff collected fish samples from the Neches River in June and September 2007. Mercury was also found in high levels in 2004/2005 by the TCEQ and TPWD in earlier studies, which prompted the DSHS survey in 2007. The Texas Parks and Wildlife Dept. (TPWD), TCEQ, and DSHS comprise the Texas Statewide Fish Tissue Monitoring Project.

Six locations on the Neches River were identified by SALG to collect fish tissue samples (see Figure 1).

Composite 1:

- Site 1: Neches River near the LNVA saltwater barrier
- Site 2: Neches River at U.S. 96

Composite 2:

- Site 3: Neches River at FM 1013
- Site 4: Neches River at R-255
- Site 5: Neches River at U.S. 59
- Site 6: Neches River at S.H. 7

A total of 60 fish were collected, 20 from Composite Site 1 and 40 from Composite Site 2. They included 18 freshwater drum, 10 longnose gar, 9 blue catfish, 8 smallmouth buffalo, 3 flathead catfish, 3 largemouth bass, 2 spotted gar, 2 white bass, 2 white crappie, 1 black crappie, 1 channel catfish, and 1 spotted bass.

Highlights of Results

- All 60 samples of fish contained mercury
- Values ranged from 0.114 mg/kg (channel catfish) to 2.522 mg/kg (longnose gar)
- Sites 4 and 5 (R-255 and U.S. 59, respectively) had the highest mercury concentrations
- Flathead catfish contained highest levels overall

The six species listed in the advisory are flathead catfish, freshwater drum, gar, largemouth bass, spotted bass, and white bass. The advisory affects areas of Hardin, Angelina, Houston, Jasper, Polk, Trinity, and Tyler Counties.

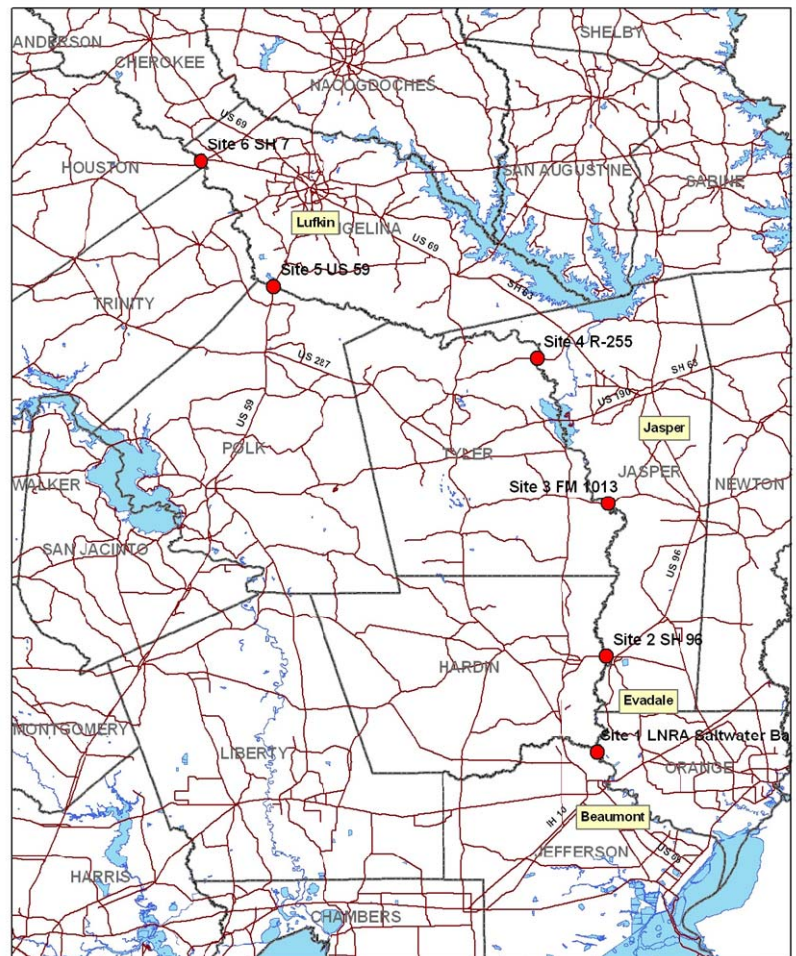
The DSHS advises people should limit consumption of flathead catfish, largemouth bass, spotted bass, white bass, gar, and freshwater drum from Composite Site 2 (Neches River-Upper).

Adults: No more than two eight-ounce meals a month

Children under 12 or those who weigh less than 75 lbs: No more than two four-ounce meals a month

Women who are pregnant, nursing, or plan to become pregnant: Should not consume any of the species affected from the Neches River

Fish from the lower section of the Neches River (Composite Site 1) did not appear to have contaminants at levels that exceeded the systemic or carcinogenic HAC (health assessment comparison value) for any contaminant. Therefore, consumption of fish from Composite site 1 may be consumed without undue restrictions.



10 5 0 10 Miles



Figure 1. Neches River Sample Sites, 2007



Lower Neches Basin Monitoring Program

FY 2011 Monitoring Program Update

The following updates were made to the FY 2011 Coordinated Monitoring Schedule (CMS) to address water quality issues in the basin. The CMS website is <http://cms.lcra.org/>.

Segment 0601

- ◆ TCEQ Region 10 will continue routine monitoring for organics in water (malathion only) at station 10563 (Neches River at SH87) and 10485 (Star Lake Canal).
- ◆ TCEQ Region 10 will collect fish tissue samples at station 10570 (Neches River 1/2 mile below Mobil Canal) and 10575 (Neches River at I-10 Bridge in Beaumont).
- ◆ LNVA added a routine monitoring station adjacent to salinity station Y located 1.8 KM downstream of the Neches River Saltwater Barrier (Station ID 20774).

Segment 0602

- ◆ Metals in water were deleted by Region 10 at station 10580 (Neches River at US 96).

Segment 0603

- ◆ Metals in water were deleted by LNVA at station 10484 (Sandy Creek) due to the completion of the CRP metals in water special study.
- ◆ Recreational Use Attainability Analyses (RUAAs) are planned for Sandy Creek (0603A) and Wolf Creek (0603B) in FY 2011. However, no changes were made to the CMS.

Segment 0607

- ◆ Metals in water were deleted by LNVA at six stations (10599, 10602, 10607, 15345, 15346, 15367) due to the completion of the CRP metals in water special study.
- ◆ Organics in water were deleted by LNVA at station 10602 (Pine Island Bayou at US69) and station 10607 (Pine Island Bayou at OSL) due to the completion of the organics in water special study.
- ◆ 24 hr. DO monitoring by LNVA at five stations (10602, 10607, 15346, 15367, 20069) to support on-going UAA studies for Pine Island Bayou and Little Pine Island Bayou.
- ◆ 24 hr. DO monitoring was deleted by Region 10 at station 15345 (Willow Creek).

Segment 0608

- ◆ Metals in water were deleted by TCEQ Region 10 at station 10609 (Village Creek at US 96).
- ◆ Metals in water were deleted by LNVA at five stations (13625, 15349, 15352, 15355, 15356) due to the completion of the CRP metals in water special study.

- ◆ RUAAs are planned for Beech Creek (0608A), Big Sandy Creek (0608B) and Cypress Creek (0608C) in FY 2011. However, no changes were made to the CMS.

Segment 0610

- ◆ LNVA deleted station 15672 (Sam Rayburn Reservoir USGS Site CC) to prevent duplication of monitoring at the reservoir's main pool.

Segment 0701

- ◆ Fish tissue sampling was deleted by TCEQ Region 10 at station 10642 (Shallow Prong Lake).
- ◆ Metals in water were deleted by LNVA at station 10669 (Taylor Bayou at Labelle Rd.) due to the completion of the CRP metals in water special study.

Segment 0704

- ◆ Fish tissue sampling was deleted by TCEQ Region 10 at station 10686 (Hillebrandt Bayou at Humble Rd.). This station (10686) was deleted entirely from the CMS.
- ◆ TCEQ Region 10 will collect chlorophyll-a samples at station 10687 (Hillebrandt Bayou at SH 124) to assess the upper AU, and LNVA will continue routine monitoring at this station. Chlorophyll was added to the CMS.

Special Projects

- ◆ Use Attainability Analyses (UAA) on Pine Island Bayou and Aquatic Life Assessment (ALA) on Little Pine Island Bayou: Biological sampling and 24 hr. measurements were collected on August 30-31, 2010 and September 23-24, 2010 by TCEQ Central Office, TCEQ Region 10, TPWD and LNVA personnel.
- ◆ East Texas Recreational Use Attainability Analyses (RUAAs): Data collection has been suspended by the TMDL program for the Neches River Basin.

Volunteer Monitoring Program

- ◆ LNVA has trained 42 volunteer monitors since 2008.
- ◆ Eleven sites are currently monitored by trained volunteers.
- ◆ Volunteer monitoring sites include: Lake Kimball in Wildwood, Neches River at LNVA Saltwater Barrier, Adams Bayou at Shangri-La Gardens, Taylors Bayou at Port Arthur Country Club, Pine Island Bayou at Cooks Lake Road, Little Pine Island Bayou at Woodway Blvd. in Pinewood, Neches River at Riverfront Park near downtown Beaumont, Hillebrandt Bayou at drainage ditch near Hwy 124 in Beaumont, Village Creek at Village Creek State Park in Lumberton, Village Creek at Hwy. 327, and private pond near Tram Road in North Beaumont.



Basin Impairments/Concerns Table

Watershed/ Segment	Use Impair- ment/Concern	Identified Parameters	Explanation of Impairment/ Concern	Actions Taken	Recommended Actions
Segment 0601: Neches River Tidal (lower portion)	Aquatic Life Use	*Malathion is not included in the Draft 2010 Concerns List (Feb. 5, 2010)	Application of pesticides for mosquito control	TCEQ Region 10 organics in water monitoring	Continue quarterly monitoring for Malathion
Segment 0601A: Star Lake Canal	Aquatic Life Use	Depressed Dissolved oxygen (DO)	Natural, low flow conditions; Molasses Bayou influence	TCEQ Region 10 routine monitoring	Continue routine monitoring; collect 24 hour DO measurements
Segment 0602: Lower Neches River above Tidal	Fish Consumption Use	Mercury in fish tissue	Atmospheric Deposition	New Advisory issued by DSHS on March 8, 2010	TCEQ Special Study; Coordinate fish tissue sampling with DSHS
Segment 0603: B.A. Steinhagen Reservoir	Fish Consumption Use	Mercury in fish tissue	Atmospheric Deposition	Public Advisory issued by DSHS	TCEQ Special Study; Coordinate fish tissue sampling with DSHS
Segment 0603A: Sandy Creek Segment 0603B: Wolf Creek	Contact Recreation Use	<i>E. coli</i>	Non-point Source Pollution	East Texas Recreational Use Attainability Analysis (RUAA) Project	Evaluate bacteria standards based on RUAA results
Segment 0607: Pine Island Bayou Segment 0607B: Little Pine Island Bayou	Aquatic Life Use Contact Recreation Use	Depressed DO <i>E. coli</i>	Natural, low flow conditions Non-point Source Pollution	Use Attainability Analysis (UAA); Aquatic Life Assessment (ALA); CWQMN Station LNVA CRP Routine Monitoring	Complete UAA, ALA studies; Use CWQMN data and revise standards as needed Conduct Recreational UAA
Segment 0607A: Boggy Creek Segment 0607C: Willow Creek	Aquatic Life Use	Depressed DO Impaired Habitat (Boggy Creek)	Natural, low flow conditions Unknown	UAA on Willow Creek N/A	Complete UAA on Willow Creek Plan UAA and/or ALA on Boggy Creek



Basin Impairments/Concerns Table

Watershed/ Segment	Use Impair- ment/Concern	Identified Parameters	Explanation of Impair- ment/Concern	Actions Taken	Recommended Actions
Segment 0608: Village Creek	General Use (Village, Beech, Cypress)	Low pH	Natural Condi- tions	TCEQ Proposed 2010 Standards Revision	Approve Standards to revise pH Range
Segment 0608A: Beech Creek	Contact Recreation Use	<i>E. coli</i>	Non-Point Source Pollution	RUAAs Planned; LNVA CRP Routine Monitoring	Complete RUAAs on Beech, Big Sandy, and Cypress
Segment 0608B: Big Sandy Creek	(Beech, Big Sandy, Cy- press, Turkey)		Natural, low flow conditions	24 hr. DO & Biologi- cal Assessment; CRP Routine Monitoring	Continue 24 hr. DO/ Biological Data Col- lection
Segment 0608C: Cypress Creek	Aquatic Life Use (Cypress, Mill)	Depressed DO			
Segment 0608E: Mill Creek	Aquatic Life Use (Cypress, Beech)	Impaired Habitat	Unknown	N/A	ALA on Beech Creek
Segment 0608F: Turkey Creek	Fish Consumption Use	Mercury in fish tissue	Atmospheric Deposition	Public Advisory Is- sued by DSHS	TCEQ Special Study; Coordinate fish tissue sampling with DSHS
Segment 0608G: Lake Kimble	(Lake Kimble, Village)				
Segment 0701: Taylor Bayou above Tidal	Aquatic Life Use General Use/Nutrients (Taylor Bayou)	Depressed DO Chlorophyll a	Natural condi- tions Unknown	UAA on Taylor/ Hillebrandt Bayou LNVA & TCEQ Rou- tine Monitoring	Complete UAA; Re- vise DO standard as needed Continue Routine Monitoring; Consider Special Study
Segment 0701D: Shallow Prong Lake	Fish Consumption Use (Shallow Prong)	Arsenic in fish tis- sue	Unknown	TCEQ Fish Tissue Sampling	DSHS evaluation; issue public fish con- sumption advisory
Segment 0702: Intracoastal Water- way Tidal	General Use/Nutrients	Chlorophyll a	Unknown	TCEQ Routine Moni- toring	Continue Routine Monitoring; Consider Special Study
Segment 0702A: Alligator Bayou	Aquatic Life Use (Alligator) *Fish Consumption Use (Intracoastal Waterway from East Bay to Port Bolivar)	Toxicity in Water, Sediment; Impaired Fish Community Dioxins, PCBs in fish tissue	Air Deposition, Point Source Pol- lution Unknown	Statewide Ambient Toxicity Assessment; Alligator Bayou ALA Public Advisory Is- sued by DSHS, July 8, 2008; Identified in the Draft 2010 303(d) List (Feb. 5, 2010)	Determine source(s) of toxicity; develop TMDL TCEQ Special Study; Coordinate fish tissue sampling with DSHS
Segment 0704: Hillebrandt Bayou	Aquatic Life Use General Use/Nutrients *Contact Recrea- tion Use	Depressed DO Ammonia- nitrogen, chloro- phyll a <i>E. coli</i>	Natural, low flow conditions Non-point source pollution; urban/ storm-water run- off, sewage Non-point Source Pollution	UAA on Taylor/ Hillebrandt Bayou LNVA & TCEQ Rou- tine monitoring I dentified in the Draft 2010 303(d) List (Feb. 5, 2010)	Complete UAA; Re- vise DO standard as needed Continue Routine Monitoring to in- clude chlorophyll a; consider special study Continue Routine Monitoring