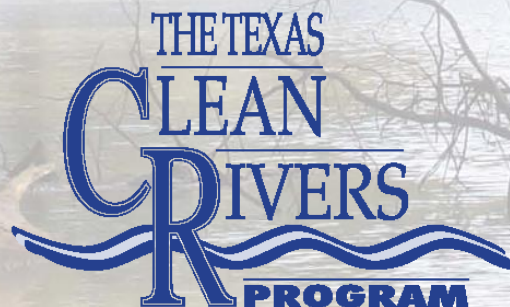




Upper Neches Basin Steering Committee Meeting

June 17, 2019



Agenda

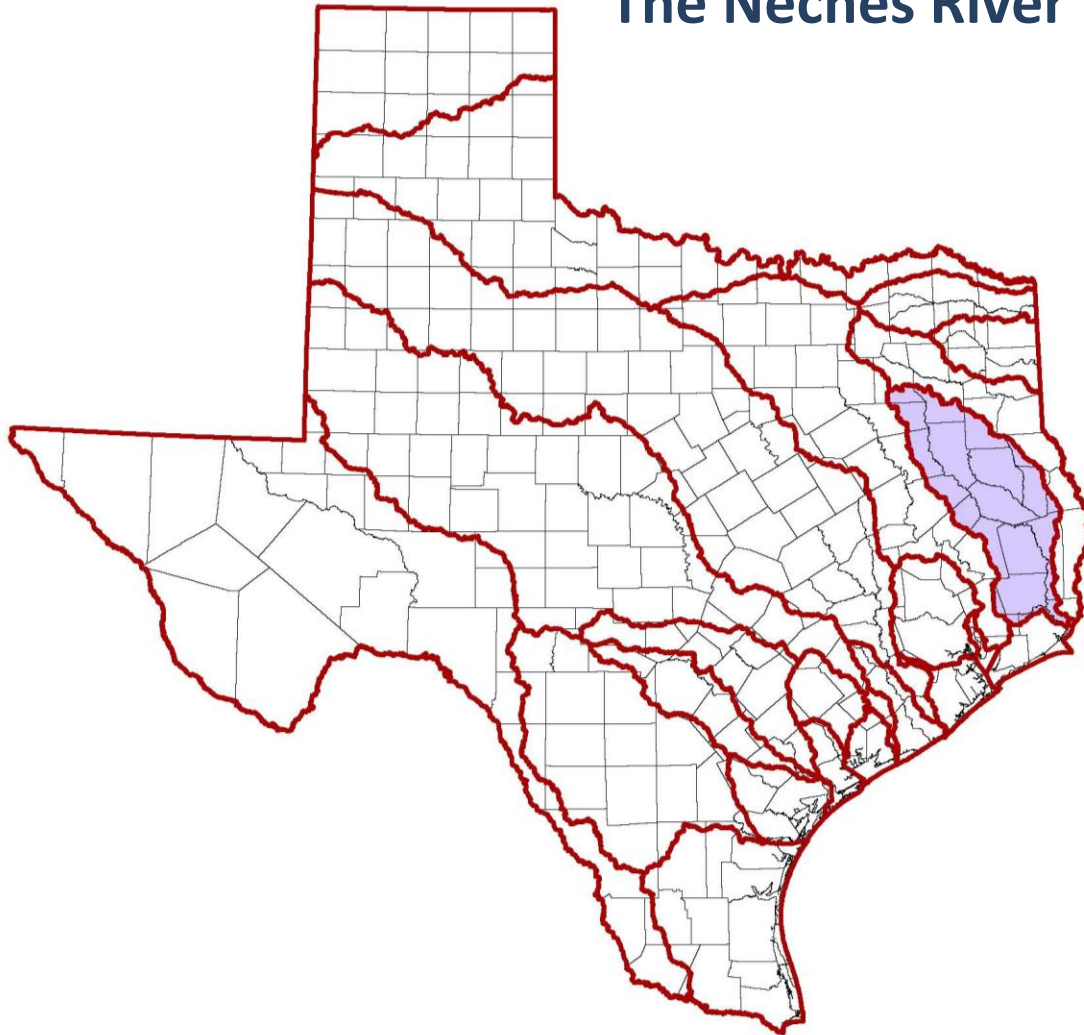
- **Welcome and Introductions** – Jeremiah Poling, Angelina & Neches River Authority
- **Overview of the Clean Rivers Program** – Jeremiah Poling, Angelina & Neches River Authority
- **Updates to ANRA's Water Quality Monitoring Program and The 2018 Basin Highlights Report**
– Dylan Coleman, Angelina & Neches River Authority
- **Introduction to a Watershed Characterization project on Kickapoo Creek in Henderson County**
– Leah Taylor, Texas Institute for Applied Environmental Research (TIAER)
- **Introduction to projects to address bacterial impairments on tributaries of the Middle and Lower Neches (Jack Creek, Cedar Creek, Hurricane Creek, Biloxi Creek, Sandy Creek, Big Sandy, Pine Island Bayou, and others.)** – Texas Water Resources Institute
- **Updates on ongoing Nonpoint Source Grant Projects for the Attoyac Bayou, Angelina River, and La Nana Creek Watersheds** – Texas Water Resources Institute & Stephen F. Austin State University
- **Texas Freshwater Mussels of Conservation Concern** – Gary Pandolfi & Erik Orsak, United States Fish and Wildlife Service
- **Open Discussion for Steering Committee Member Recommendations and Concerns**



ANRA's Functions in the Neches Basin



The Neches River Basin



ANRA's Jurisdictional Service Area includes all or a portion of the following counties:

Van Zandt
Smith
Henderson
Newton
Cherokee
Anderson
Rusk
Houston
Nacogdoches

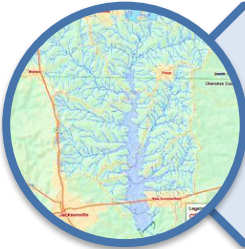
San Augustine
Shelby
Angelina
Trinity
Sabine
Polk
Jasper
Orange



ANRA's General Administration



**Coordinate with
Governments/Entities**



Water Resource Planning and Development



**Economic Development
Bond Issuance**



ANRA's Field Operations Division



**Regional Wastewater Treatment Facilities
and Contract Operations**



Drinking Water Utilities



**Biosolids Composting
Neches Compost Facility**



ANRA's Environmental Division



Clean Rivers Program
Water Quality Monitoring



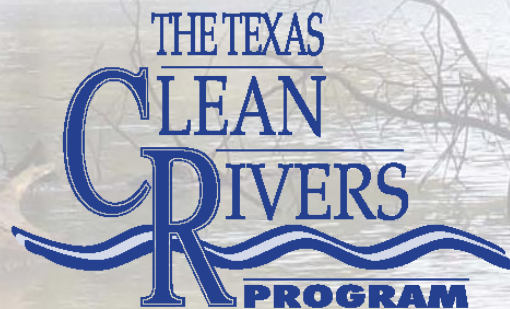
Environmental Laboratory
Drinking Water, Surface Water, and
Wastewater Testing



On-Site Sewage Facilities Program
OSSF Permitting & Investigations



An Overview of the Texas Clean Rivers Program





The Texas Clean Rivers Program (CRP)

- Established in 1991 by the 72nd Texas Legislative Session (SB 818)
- Purpose is to monitor the waters of the state and maintain and/or improve water quality
- Partially funded by fees on wastewater discharge and water rights permits
- Collaboration of the Texas Commission on Environmental Quality (TCEQ) and 15 partner agencies
- Emphasis on the collection of water quality data for assessment and regulatory purposes

<http://www.tceq.texas.gov/waterquality/clean-rivers>



Angelina River upstream of SH 204



FY 2018 - 2019 Budget Allocations

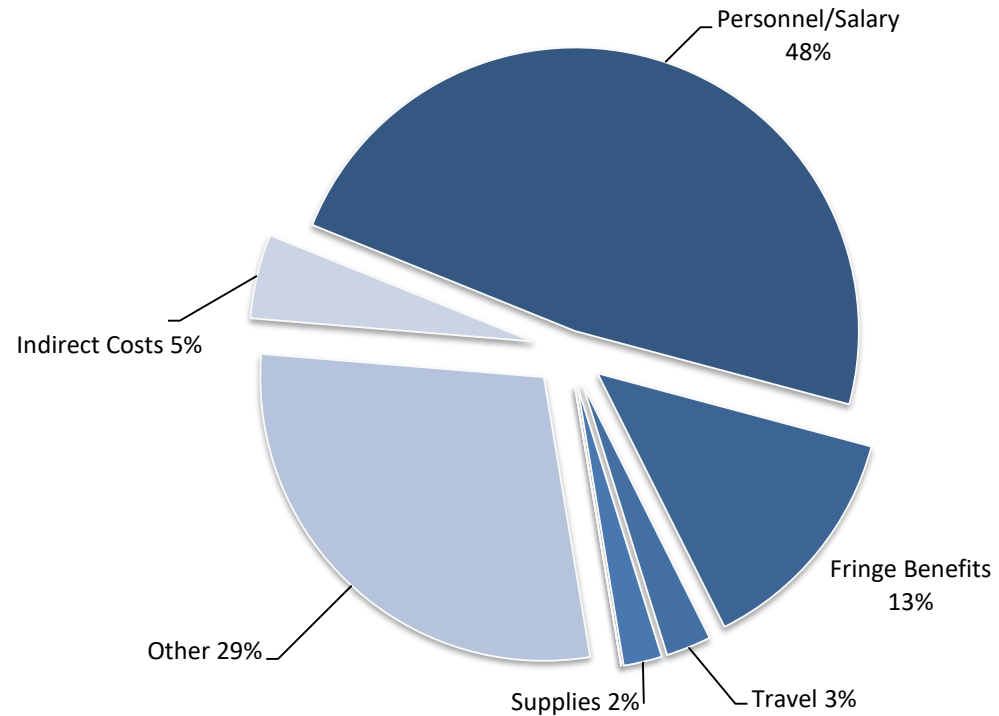
Planning Agency	FY 2018	FY 2019	Total Allocation
BRA (12)	\$3,981,590.00	\$398,159.00	\$796,318.00
GBRA (17 & 18)	\$1,353,781.00	\$135,378.00	\$270,756.00
HGAC (9, 10, 11, 13)	\$965,615.00	\$965,615.00	\$1,931,230.00
IBWC (23)	\$267,252.00	\$267,252.00	\$534,504.00
LNRA (16)	\$99,298.00	\$99,298.00	\$198,596.00
LCRA (14 & 15)	\$381,797.00	\$381,797.00	\$763,594.00
ANRA & LNVA (6 & 7)	\$329,766.00	\$329,766.00	\$659,532.00
NETMWD (4)	\$99,298.00	\$99,298.00	\$198,596.00
NRA (20, 21, & 22)	\$258,906.00	\$258,906.00	\$517,812.00
RRA (1 & 2)	\$311,118.00	\$311,118.00	\$622,236.00
SARA (19)	\$197,770.00	\$197,770.00	\$395,540.00
SRA (5)	\$313,074.00	\$313,074.00	\$626,148.00
SRBA (3)	\$99,297.00	\$99,297.00	\$198,594.00
TRA (8)	\$393,272.00	\$393,272.00	\$786,544.00
TOTALS	\$4,250,000.00	\$4,250,000.00	\$8,500,000.00



ANRA Clean Rivers Program Budget by Category

FY 2018 – FY 2019 Clean Rivers Program Budget

Budget Category	Approved Budget
Personnel/Salary	\$158,437.50
Fringe Benefits	\$44,362.50
Travel	\$8,520.00
Supplies	\$7,242.24
Equipment	\$0.00
Contractual	\$0.00
Construction	\$0.00
Other	\$95,360.00
Indirect Costs	\$15,843.76
Total Reimbursable Costs	\$329,766.00





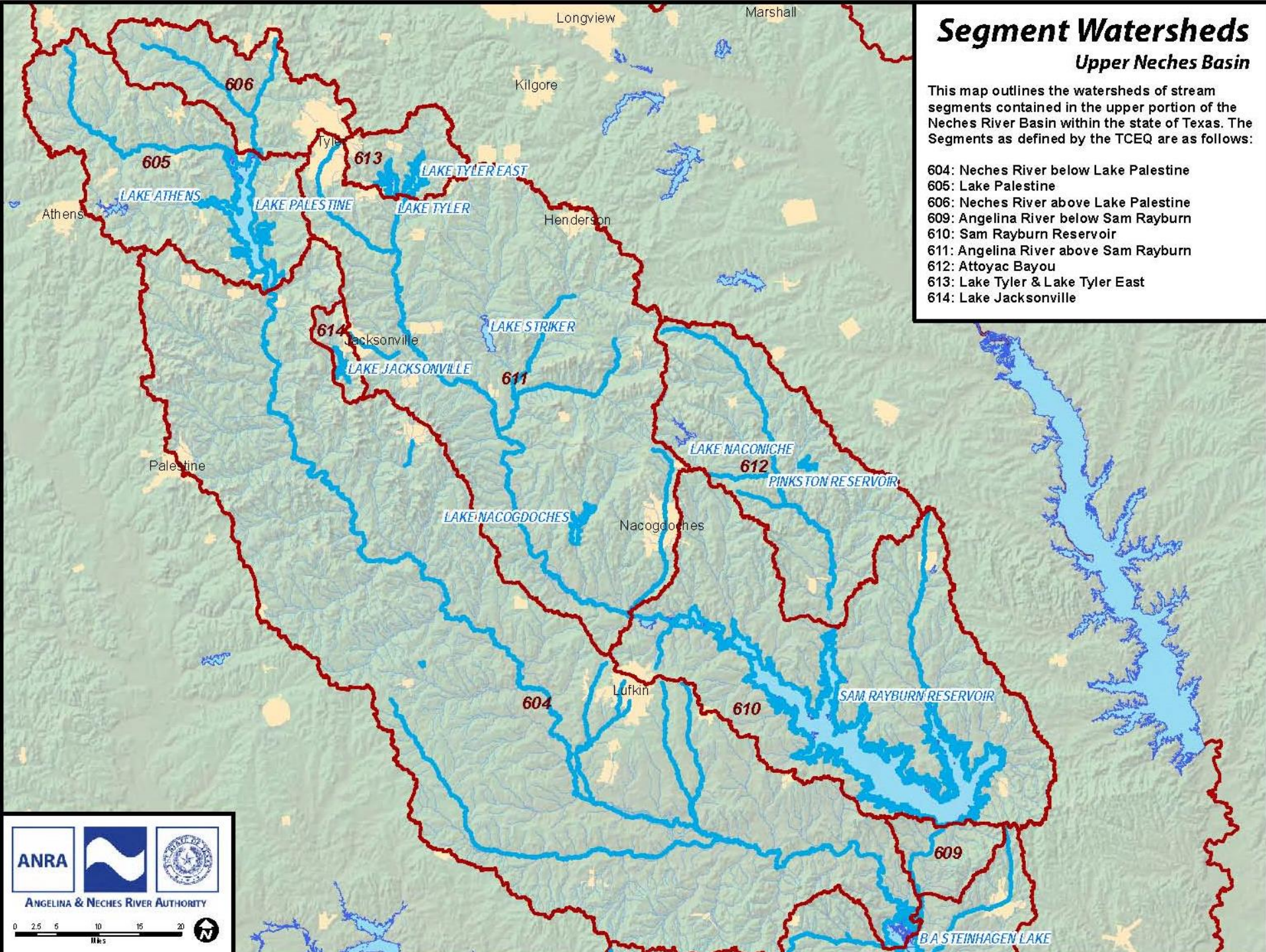
ANRA's Water Quality Monitoring Activities in the Upper Neches Basin

Segment Watersheds

Upper Neches Basin

This map outlines the watersheds of stream segments contained in the upper portion of the Neches River Basin within the state of Texas. The Segments as defined by the TCEQ are as follows:

- 604: Neches River below Lake Palestine
- 605: Lake Palestine
- 606: Neches River above Lake Palestine
- 609: Angelina River below Sam Rayburn
- 610: Sam Rayburn Reservoir
- 611: Angelina River above Sam Rayburn
- 612: Attoyac Bayou
- 613: Lake Tyler & Lake Tyler East
- 614: Lake Jacksonville



ANGELINA & NECHES RIVER AUTHORITY

0 2.5 5 10 15 20
Miles





FY 2019 Water Quality Monitoring in the Neches Basin

- Currently, ANRA monitors 37 sites quarterly for field parameters, conventional parameters, and bacteria. Chlorophyll-a and Pheophytin are only collected at 19 of the 37 sites that we monitor.
- Additional monitoring in the Upper Neches Basin is performed by TCEQ (Region 5 in Tyler and Region 10 in Beaumont), as well as the Lower Neches Valley Authority (LNVA).

FY 2019 Number of Monitoring Stations in the Neches Basin				
Sampling Entity	Field	Conventional	Bacteria	Flow
ANRA	37	37	37	29
TCEQ – Region 5	24	20	24	14
TCEQ – Region 10	26	20	23	8
LNVA	23	23	23	20



FY 2020 Water Quality Monitoring Changes

- With the additional capabilities of our new lab, ANRA is hoping to be able to begin collecting Chlorophyll-a and Pheophytin at 100% of our monitoring sites in FY 20.
- ANRA is intending to begin collecting TKN at all of our monitoring sites.
- ANRA will be conducting 24 hour DO Monitoring at 2 sites for FY 20.

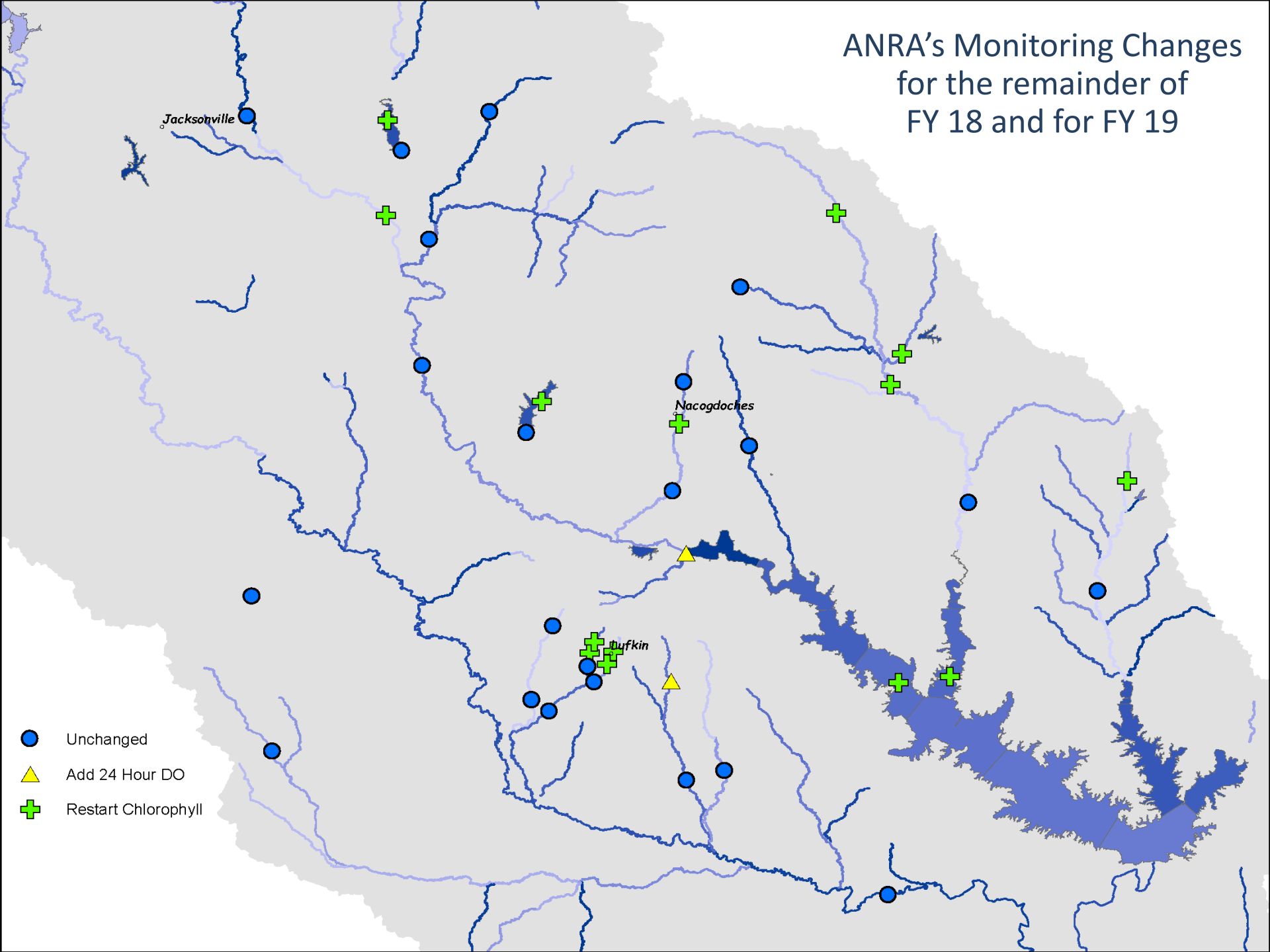
FY 2019 Number of Monitoring Stations in the Neches Basin							
Sampling Entity	Field	Conventional	Bacteria	Flow	AqHab Benthetics Nekton	24 hr DO	Metals Sediment
ANRA	37	37	37	29	0	2	0
TCEQ – Region 5	25	21	25	14	1	1	8
TCEQ – Region 10	27	20	23	8	0	4	6
LNVA	23	23	23	20	2	2	0

The Coordinated
Monitoring Schedule
(CMS) is available online at

cms.lcra.org

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ANRA's Monitoring Changes for the remainder of FY 18 and for FY 19



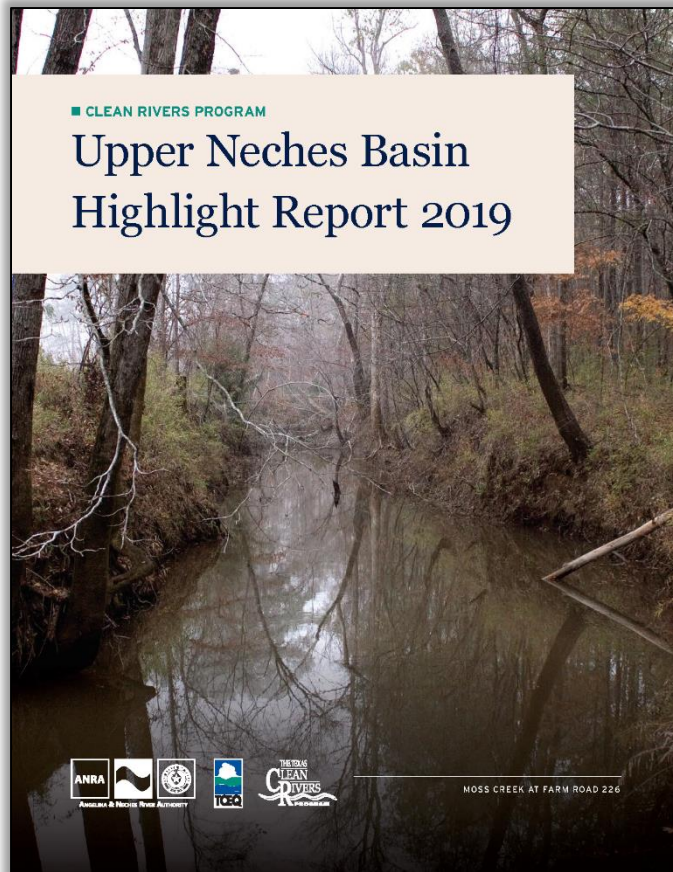
- Unchanged
- ▲ Add 24 Hour DO
- ✚ Restart Chlorophyll

ANRA's Water Quality Monitoring in the Neches Basin for FY 20

Site Description	AU	Station ID	Chlorophyll-a /Pheophytin	Comments
Neches at US 69	0604_01	10585		
Cedar at FM 2497	0604A_02	10478		
Cedar at FM 1336	0604A_02	13528		
Cedar at Loop 287	0604A_03	10479	RESTART	
Cedar at Ellis	0604A_03	21434	RESTART	
Hurricane at Loop 287	0604B_01	10487	RESTART	
Hurricane at SH 324	0604B_01	13529		
Hurricane below Kiwanis Park	0604B_02	21433	RESTART	
Jack at FM 2497	0604C_01	10492		
Jack at FM 3150	0604C_01	10494		
Piney at FM 358	0604D_02	16096		
Biloxi at FM 1818	0604M_02	16097		
Biloxi at CR 216	0604M_03	10499	RESTART	24 Dissolved Oxygen
Buck at FM 1818	0604N_01	16098		
Lake Ratcliff	0604T_01	17339		
Sam Rayburn near Shirley Creek	0610_04	15524	RESTART	
Sam Rayburn at Alligator Cove	0610_05	15523	RESTART	
Ayish at SH 103	0610A_01	15361		
Ayish at Columbia St	0610A_02	21431	RESTART	
Carrizo at SH 21	0610P_01	21432		
Angelina at SH 21	0611_02	10630		
Angelina at SH 204	0611_03	10633		
Angelina at FM 1798	0611_04	10635		
La Nana at CR 526	0611B_01	10474		
La Nana at East Main	0611B_02	20792	RESTART	
La Nana at Loop 224 North	0611B_03	16301		
Mud at US 84	0611C_01	10532	RESTART	
Mud at US 79	0611C_02	14477		
Lake Nacogdoches Main Pool	0611Q_01	15801		
Lake Nacogdoches Upper Lake	0611Q_01	21021	RESTART	
Lake Striker Upper Lake	0611R_01	17822	RESTART	
Lake Striker Main Pool	0611R_01	17824		
Attoyac at SH 21	0612_01	10636		
Attoyac at SH 7	0612_02	15253	RESTART	
Attoyac at US 59	0612_03	16076	RESTART	
West Creek	0612F_01	20845	RESTART	
Lake Naconiche Main Pool	0612G_01	21435		
Riverine Portion of Sam Rayburn	0615_01	TBD		24 Dissolved Oxygen



2019 Upper Neches Basin Highlights Report



0611 ANGELINA RIVER ABOVE SAM RAYBURN



A 10.1 mile long freshwater stream. From the aqueduct crossing 0.6 miles upstream of the confluence of Paper Mill Creek in Angelina/Nacogdoches County to the confluence of Barnhardt Creek and Mill Creek at FM 225 in Rusk County. The designated uses for this segment include contact recreation, high aquatic life use, fish consumption use, public water supply use, and general

use. One assessment unit on the main stem, and six assessment units on unclassified tributaries are impaired for bacteria. Assessment unit 01 on the main stem, 01 on the East Fork Angelina (0611A), 01 & 02 on La Nana Bayou (0611B), 01 on Mud Creek (0611C), and 01 & 02 on West Mud Creek (0611D).

0612 ATTOYAC BAYOU



A freshwater stream measuring 61.7 miles in length from a point 3.0 km (2.4 miles) downstream of Curry Creek in Nacogdoches/San Augustine County to FM 05 in Rusk County. The designated uses for this segment include the following: high aquatic life, general, contact recreation, and public water supply. The area surrounding the watershed is managed for agricultural (cattle and poultry), silvicultural, recreational, and wildlife uses. The

watershed contains many rural residents. Assessment units 02 & 03 are impaired for bacteria. After diligent work from local stakeholders as part of the ongoing watershed protection plan, the southernmost assessment unit (01) has begun meeting the criteria for its designated uses, and it has been removed from the impaired list in the 2016 IR.

NARRATIVE DESCRIPTIONS OF CLASSIFIED SEGMENTS IN THE UPPER NECHES BASIN





ANGELINA & NECHES RIVER AUTHORITY



Additional Resources

- Texas Commission on Environmental Quality Clean Rivers Program
 - <http://www.texascleanrivers.org>
- Surface Water Quality Monitoring Procedures Manual
 - http://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg415/rg-415.pdf
- Upper Neches Basin Quality Assurance Project Plan (QAPP)
 - https://www.anra.org/divisions/water_quality/crp/pdfs/QAPP/ANRA_CRP_QAPP_FY_18-19.pdf
 - https://www.anra.org/divisions/water_quality/crp/pdfs/QAPP/ANRA_CRP_QAPP_FY_18-19_Amendment_1.pdf
- ANRA CRP Monitoring Activities
 - http://www.anra.org/divisions/water_quality/crp/monitoring.html
- Coordinated Monitoring Schedule
 - <http://cms.lcra.org>



Comments or Questions?

- Please direct inquiries regarding ANRA's Clean Rivers Program to:

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Angelina & Neches River Authority
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Lufkin, TX 75904
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Email: dcoleman@anra.org

