
Angelina & Neches River Authority
Providing water resource solutions and protecting the waterways of the Neches River Basin since 1935.
THE TEXAS CLEAN RIVERS PROGRAM
2025 Upper & Middle Neches Basin Steering Committee Meeting
ANRA
ANGELINA & NECHES RIVER AUTHORITY
July 18th 2025

Angelina & Neches River Authority

Providing water resource solutions and protecting the waterways of the Neches River Basin since 1935.

Agenda

Welcome and Introductions

Jeremiah Poling, Angelina & Neches River Authority

Overview of the Clean Rivers Program

Emylea Cole, Angelina & Neches River Authority

Updates to ANRA's Water Quality Monitoring Program and The 2025 Basin Highlights Report

Emylea Cole, Angelina & Neches River Authority

TMDL and Clean Water Act Project Updates

Middle Neches Tributaries TMDL Update –
Shaylynn Postma, Texas Water Resources Institute

Middle Neches Tributaries TMDL Addendum –
Wyatt Eason, Texas Commission on Environmental Quality

Bayou Carrizo Supplementary Water Quality Monitoring and Data Analysis – Shaylynn Postma, Texas Water Resources Institute

Sandy Creek Watershed Characterization project –
Anna Eismont, Texas Water Resources Institute

TMDL and Clean Water Act Project Updates cont.

Attoyac Bayou Watershed Protection Plan –
Alexander Neal, Texas Water Resources Institute

La Nana Bayou Watershed Protection Plan –
Alexander Neal, Texas Water Resources Institute

Ayish Bayou Water Quality – Texas Water Resources Institute

Recreation, Education, and Outreach Updates

Kimberly Wagner, Angelina & Neches River Authority

Guest Speakers

Caleb Mullins of SFA will present on the effects of Chinese tallow on amphibian ecology in east Texas forest ecosystems

Open Discussion for Steering Committee Member Recommendations and Concerns

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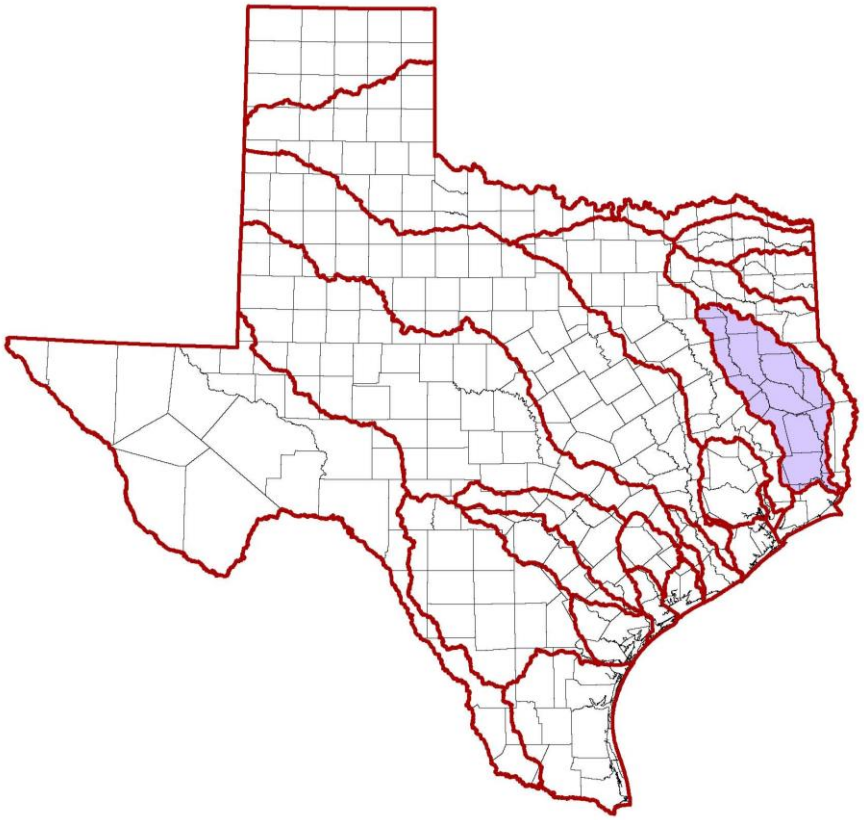
The Neches River Basin



ANRA's Jurisdictional Service Area includes all or a portion of the following 17 counties:

- Van Zandt
- Smith
- Henderson
- Newton
- Cherokee
- Anderson
- Rusk
- Houston
- Nacogdoches
- San Augustine
- Shelby
- Angelina
- Trinity
- Sabine
- Polk
- Jasper
- Orange

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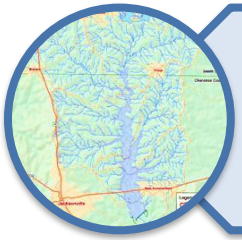
ANRA's General Administration

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

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ANRA's Field 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

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The Texas Clean Rivers Program (CRP)

Angelina and Neches River Confluence at Lake B.A. Steinhagen

- 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
- Emphasis on the collection of water quality data for assessment and regulatory purposes
- Funded by state fees
- Collaboration of the Texas Commission on Environmental Quality (TCEQ) and 15 partner agencies

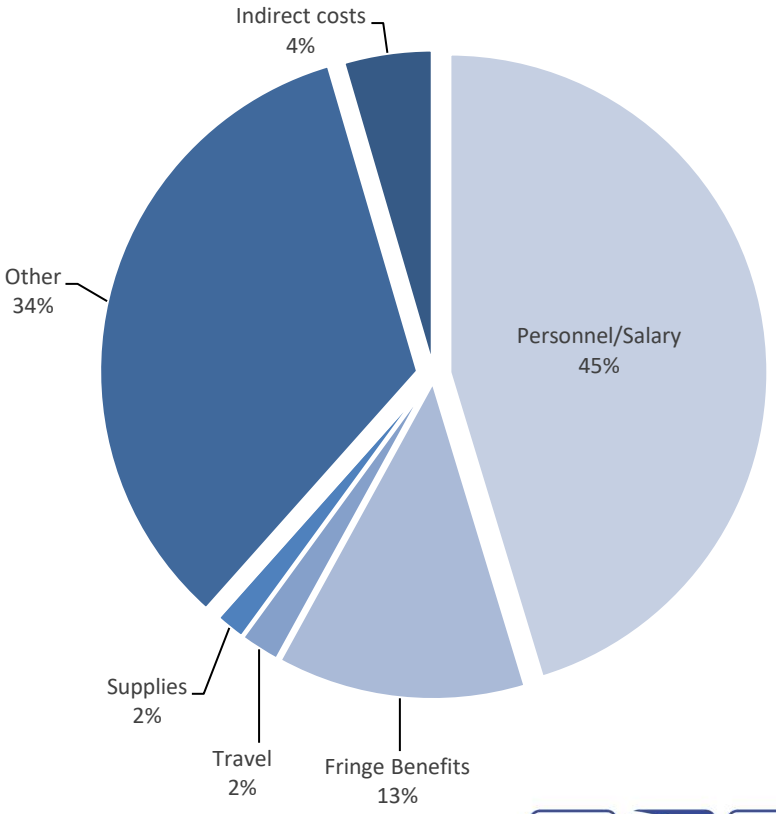
http://www.tceq.texas.gov/waterquality/clean-rivers

Budget Allocations for the CRP Program

FY 2024 - 2025 Budget Allocations			
Planning Agency	**FY 2024**	**FY 2025**	**Total Allocation**
Brazos River Authority (12)	$474,088.00	$474,088.00	$948,176.00
Guadalupe-Blanco River Authority (17 & 18)	$161,195.00	$161,195.00	$322,390.00
Houston-Galveston Area Council (9, 10, 11, 13)	$1,149,758.00	$1,149,758.00	$2,299,516.00
International Boundary & Water Commission (23)	$318,217.00	$318,217.00	$636,434.00
Lavaca-Navidad River Authority (16)	$118,234.00	$118,234.00	$236,468.00
Lower Colorado River Authority (14 & 15)	$454,606.00	$454,606.00	$909,212.00
Angelina & Neches River Authority and Lower Neches Valley Authority (6 & 7)	**$392,652.00**	**$392,652.00**	**$785,304.00**
Northeast Texas Municipal Water District (4)	$118,234.00	$118,234.00	$236,468.00
Nueces River Authority (20, 21, & 22)	$308,279.00	$308,279.00	$616,558.00
Red River Authority of Texas (1 & 2)	$370,448.00	$370,448.00	$740,896.00
San Antonio River Authority (19)	$235,485.00	$235,485.00	$470,970.00
Sabine River Authority (5)	$372,777.00	$372,777.00	$745,554.00
Sulphur River Basin Authority (3)	$118,233.00	$118,233.00	$236,466.00
Trinity River Authority (8)	$468,269.00	$468,269.00	$936,538.00
TOTALS	**$5,060,475.00**	**$5,060,475.00**	**$10,120,950.00**

ANRA's CRP Budget Breakdown

FY 2024 - FY 2025 Clean River Program Budget	
Budget Category	**Approved Budget**
Personnel/Salary	$177,903.72
Fringe Benefits	$49,813.04
Travel	$8,033.52
Supplies	$6,035.35
Equipment	$0.00
Contractual	$0.00
Construction	$0.00
Other	$133,076.00
Total Direct Costs	$374,861.63
Indirect Costs	$17,790.37
Total Project Costs	$392,652.00



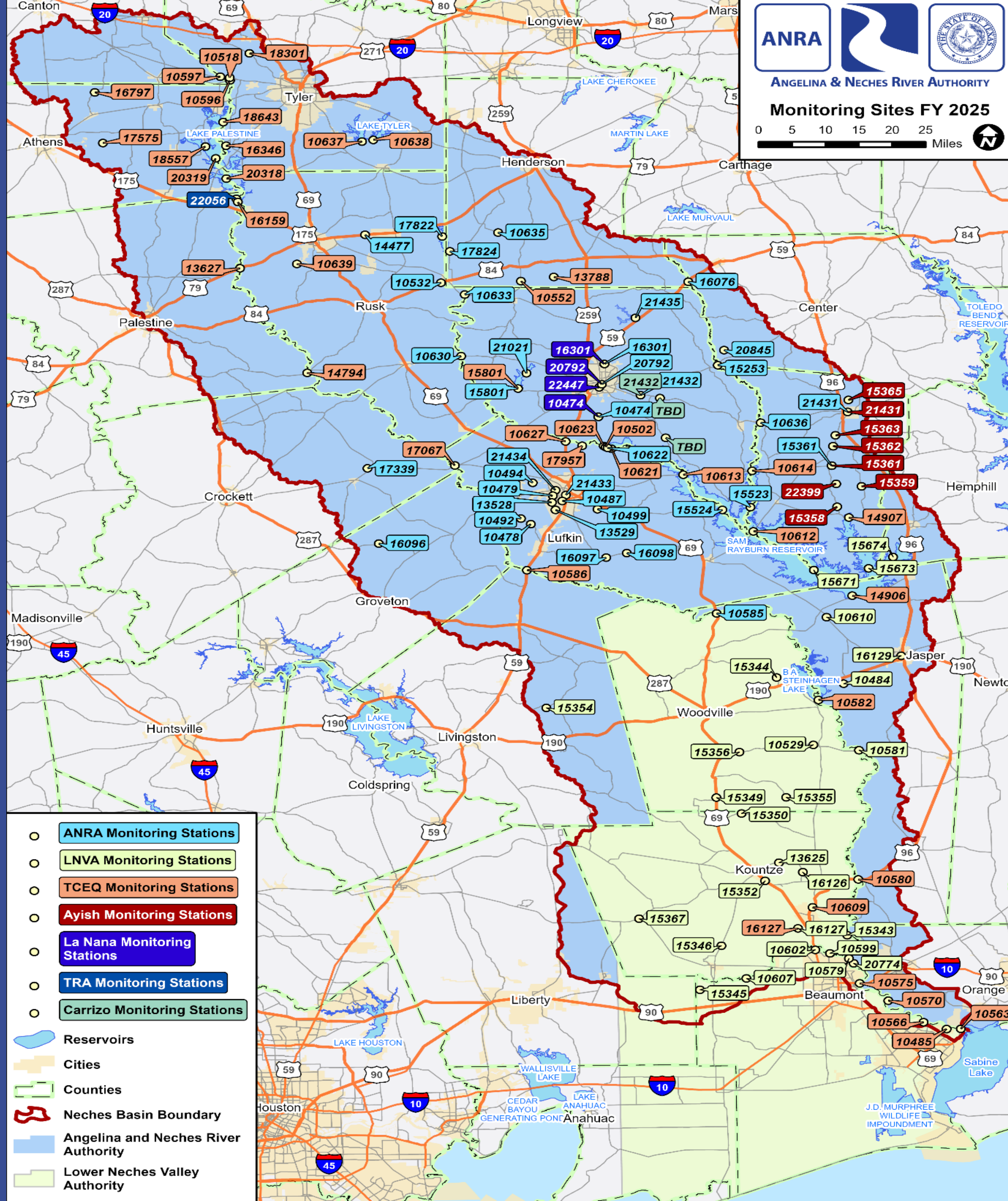
FY 2025 Neches Basin Water Quality Monitoring Schedule

FY 2025 Monitoring Stations in the Neches Basin	
Monitoring Entity	*Number of Monitoring Sites*
Angelina & Neches River Authority	46
TCEQ Region 5 (Tyler)	19
TCEQ Region 10 (Beaumont)	22
Lower Neches Valley Authority	23
Tarrant Regional Water District	1

ANRA continues to monitor 37 sites quarterly for field parameters, conventional parameters, and bacteria. Additionally, there are two 24-hour Dissolved Oxygen monitoring sites: one on Cedar Creek in Lufkin, one on the Riverine Portion of Sam Rayburn Reservoir.

Changes

- Ayish Bayou sampling completed in July of 2025. A continuation project is expected for FY 2026.
- La Nana Bayou sampling completed in February of 2025. A continuation project is planned for FY 2026.
- Sandy Creek sampling began in June of 2025 and will continue for 24 months.
- Bayou Carrizo sampling to begin in the summer/fall of 2025 and will continue for 24 months.
- Attoyac Bayou WPP Implementation Continuation planned for FY 2026.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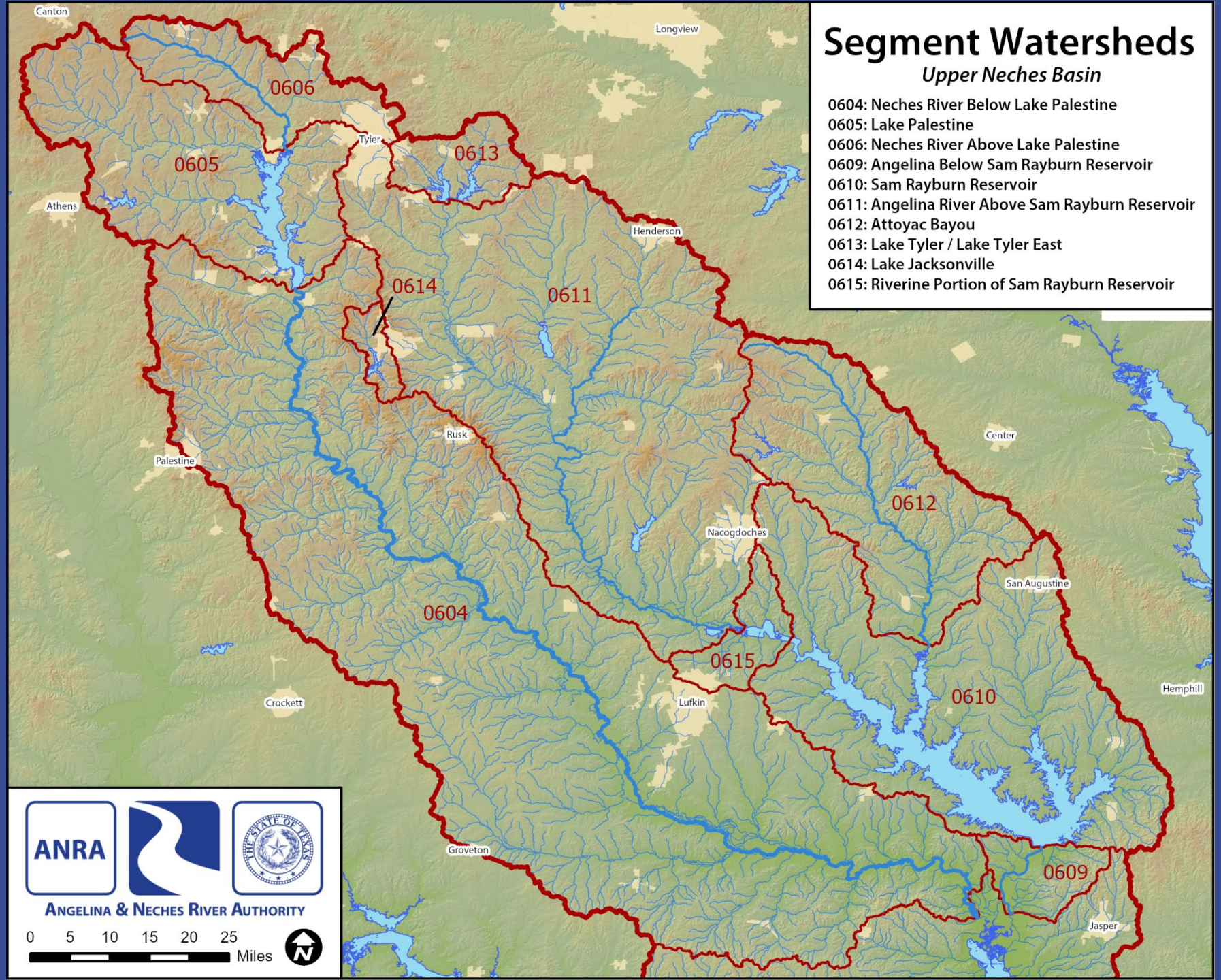
Monitoring Sites FY 2025
0 5 10 15 20 25
Miles
ANRA Monitoring Stations
LNVA Monitoring Stations
TCEQ Monitoring Stations
Ayish Monitoring Stations
La Nana Monitoring Stations
TRA Monitoring Stations
Carrizo Monitoring Stations
Reservoirs
Cities
Counties
Neches Basin Boundary
Angelina and Neches River Authority
Lower Neches Valley Authority
Canton
Longview
Tyler
Athens
Henderson
Carthage
Palestine
Rusk
Center
Crockett
Hemphill
Lufkin
Groveton
Madisonville
Jasper
Newton
Woodville
Huntsville
Livingston
Coldspring
Kountze
Beaumont
Orange
Liberty
Houston
Anahuac
Lake Palestine
Lake Tyler
Lake Cherokee
Martin Lake
Lake Murvaul
Toledo Bend Reservoir
Sam Rayburn Reservoir
B A Steinhagen Lake
Lake Livingston
Lake Houston
Wallisville Lake
Lake Anahuac
Cedar Bayou Generating Pond
Sabine Lake
J.D. Murphree Wildlife Impoundment

Water Quality Monitoring in the Neches Basin

Parameters Collected		
Field	Conventional	Bacteriological
Dissolved Oxygen	Ammonia-N	*Escherichia Coli* (E.coli)
pH	Nitrate-N	
Conductivity	Nitrite-N	
Instantaneous Stream Flow	Total Kjeldhal Nitrogen	
Water Temperature	Chlorophyll-a	
Secchi Depth (Transparency)	Pheophytin-a	
Total Water Depth	Chloride	
Present Weather	Sulfate	
Days Since Last Significant Rainfall	Total Phosphorus	
Flow Severity	Total Suspended Solids	



Segment Watersheds

Upper Neches Basin

0604: Neches River Below Lake Palestine
0605: Lake Palestine
0606: Neches River Above Lake Palestine
0609: Angelina Below Sam Rayburn Reservoir
0610: Sam Rayburn Reservoir
0611: Angelina River Above Sam Rayburn Reservoir
0612: Attoyac Bayou
0613: Lake Tyler / Lake Tyler East
0614: Lake Jacksonville
0615: Riverine Portion of Sam Rayburn Reservoir

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0 5 10 15 20 25 Miles

New Laboratory Equipment Funded by the T.L.L Temple Foundation

Replacement Ion Chromatograph

- Used to perform analyses of Nitrate, Nitrite, Sulfate, and Chloride.
- Previous unit was more than 10 years old, and was no longer supported by the manufacture, leaving us unable to obtain parts and service.
- A very generous grant from the T.L.L Temple Foundation paid for the bulk of the new instrument purchase, allowing us to upgrade to a supported instrument without any significant impacts to the CRP program.
- New unit was installed in mid April, and is working well.
- A **BIG Thank You** to the T.L.L Temple Foundation for supporting our environmental efforts in the basin!

2025 Upper Neches Basin Highlights Report

The Basin Highlights Report is produced annually by ANRA and typically provides an overview of previous years events and ongoing programs in the upper and middle portions of the Neches River Basin that are relevant to the Clean Rivers Program.

To limit redundancy, the style of the report changes each year on a six-year revolving cycle. Last years' report was in the Watershed Characterization Report format, while this year's report follows the Standard Report format. The Standard Report format provides updates on water quality as well as happenings in the basin since the previous report.

2025 Upper Neches Basin Highlights Report

The 2025 Basin Highlights Report covers:

- Updates to the TCEQ's Integrated Report.
- Extreme weather events.
- Recreation, education, and outreach.
- Special projects planned in the basin.
- Topics of interest to watershed stakeholders.

The 2025 Upper Neches Basin Highlights Report can be found at:

https://www.anra.org/wp-content/uploads/2025-BHR-FINAL.pdf

Upper Neches Basin Sites in the 2024 Texas Integrated Report 303(d) List

SEGMENT ID	SEGMENT NAME	IMPAIRMENTS	CATEGORY (AU ID)
604	Neches River Below Lake Palestine	Dioxin in edible tissue Mercury in edible tissue	5c (01, 02, 03) 5c (01, 02, 03)
0604A	Cedar Creek	Bacteria in water (Recreation Use) Depressed dissolved oxygen in water	5c (03) 5c (03)
0604B	Hurricane Creek	Bacteria in water (Recreation Use)	5a (02)
0604C	Jack Creek	Bacteria in water (Recreation Use)	5a (01)
0604D	Piney Creek	Depressed dissolved oxygen in water	5b (01)
0604M	Biloxi Creek	Bacteria in water (Recreation Use) Depressed dissolved oxygen in water	5a (02) 5c (03)
0604T	Lake Ratcliff	Mercury in edible tissue	5c (01)
605	Lake Palestine	pH	5b (01, 02, 03, 09, 10, 11)
0605A	Kickapoo Creek in Henderson County	Bacteria in water (Recreation Use) Depressed dissolved oxygen in water	5r (01, 02) 5r (01)
606	Neches River Above Lake Palestine	Bacteria in water (Recreation Use) Depressed dissolved oxygen in water	5c (01, 02) 5b (02)
0606A	Prairie Creek	Bacteria in water (Recreation Use)	5b (01, 03)
0606D	Black Fork Creek	Bacteria in water (Recreation Use)	5b (02)
609	Angelina River Below Sam Rayburn Reservoir	Dioxin in edible tissue Mercury in edible tissue	5a (01) 5c (01)

SEGMENT ID	SEGMENT NAME	IMPAIRMENTS	CATEGORY (AU ID)
610	Sam Rayburn Reservoir	Dioxin in edible tissue Excessive algal growth in water Mercury in edible tissue pH (high)	5c (01 - 10) 5c (01 - 10) 5c (01 - 10) 5c (05)
0610A	Ayish Bayou	Bacteria in water (Recreation Use)	5a (01, 02)
0610P	Bayou Carrizo	Bacteria in water (Recreation Use)	5c (01)
611	Angelina River Above Sam Rayburn Reservoir	Bacteria in water (Recreation Use)	5c (01, 03, 04)
0611A	East Fork Angelina River	Bacteria in water (Recreation Use)	5c (01, 02)
0611B	La Nana Bayou	Bacteria in water (Recreation Use)	5r (01, 02, 03)
0611C	Mud Creek	Bacteria in water (Recreation Use)	5b (01, 02)
0611D	West Mud Creek	Bacteria in water (Recreation Use)	5c (01)
612	Attoyac Bayou	Bacteria in water (Recreation Use)	5r (01, 02, 03)
0612F	West Creek	Bacteria in water (Recreation Use)	5b (01)
613	Lake Tyler/Lake Tyler East	Excessive algal growth in water	5c (02, 03, 04)
615	Riverine Portion of Sam Rayburn Reservoir	Bacteria in water Depressed dissolved oxygen in water Dioxin in edible tissue Mercury in edible tissue pH (low)	5c (01) 5c (01) 5c (01) 5c (01) 5c (01)
615A	Paper Mill Creek	Bacteria in water	5b (01)

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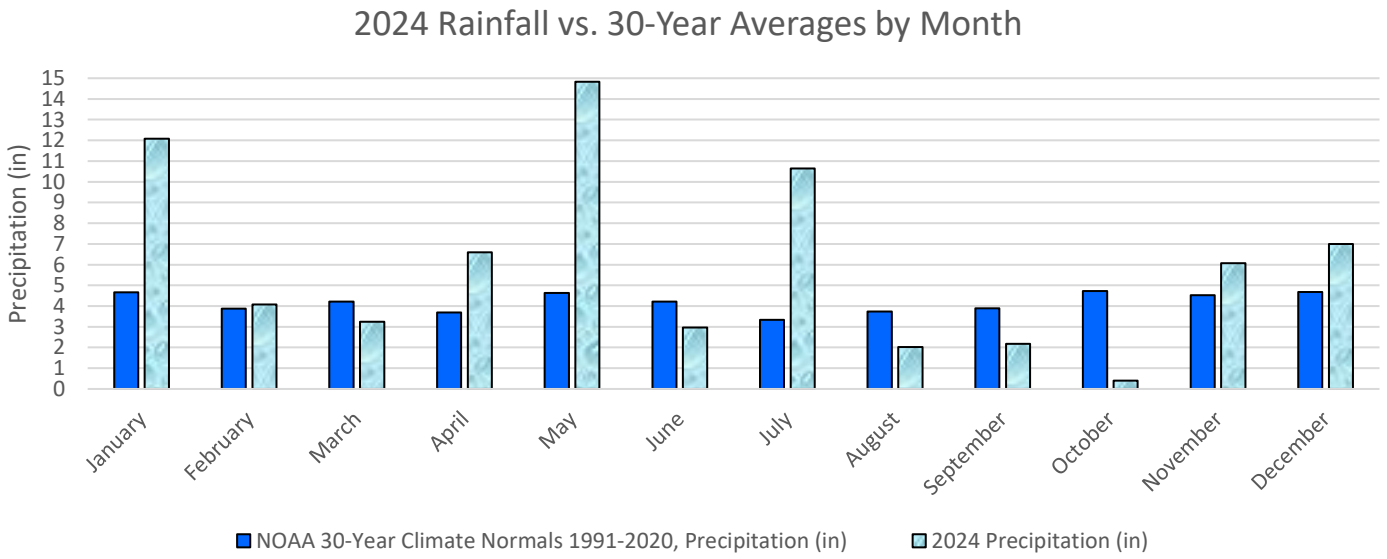
Reclassifications and Delistings from the 2024 IR

Segment ID	Name	Impairment	AU ID	Previous Category	New Category
0604A	Cedar Creek	Bacteria in Water	02	5a	4a
0604B	Hurricane Creek	Bacteria in Water	01	5a	4a
0604C	Jack Creek	Bacteria in Water	01	5a	4a
0604D	Piney Creek	Bacteria in Water	02	5b	-
0604M	Biloxi Creek	Bacteria in Water	03	5a	4a
0605A	Kickapoo Creek	Bacteria in Water Depressed Dissolved Oxygen in Water	01, 02 01	5c	5r 5r
0611B	La Nana Bayou	Bacteria in Water	01, 02, 03	5b	5r
0612	Attoyac Bayou	Bacteria in Water	01, 02, 03	5c	5r

A Wet Year for East Texas



By the end of July, the yearly rainfall total exceeded the 30-year average of 50.2 inches, and by the end of the year, the total had reached 72.1 inches - the highest recorded since 2004.

Affects of stormwater runoff:

- Pollutant runoff
- Sewer system damage
- Habitat alteration

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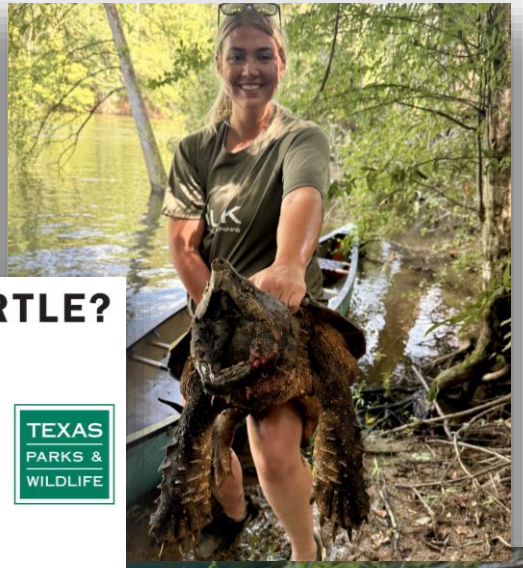
Shells, Scales and Other Wildlife Tales

Shell yeah we love alligator snapping turtles! :

- Alligator snapping turtles are protected by state and federal law.
- Alligator snapping turtles are the largest freshwater turtles in the world.
- An alligator snapping turtle has a bite estimated to be around 1,000 PSI.
- Chemosensory organs in their necks
- Female turtles are formed between 29 and 30 degrees Celsius, and males at around 25 to 27 degrees.
- Since 2020, 175 ASTs have been reported to the server.



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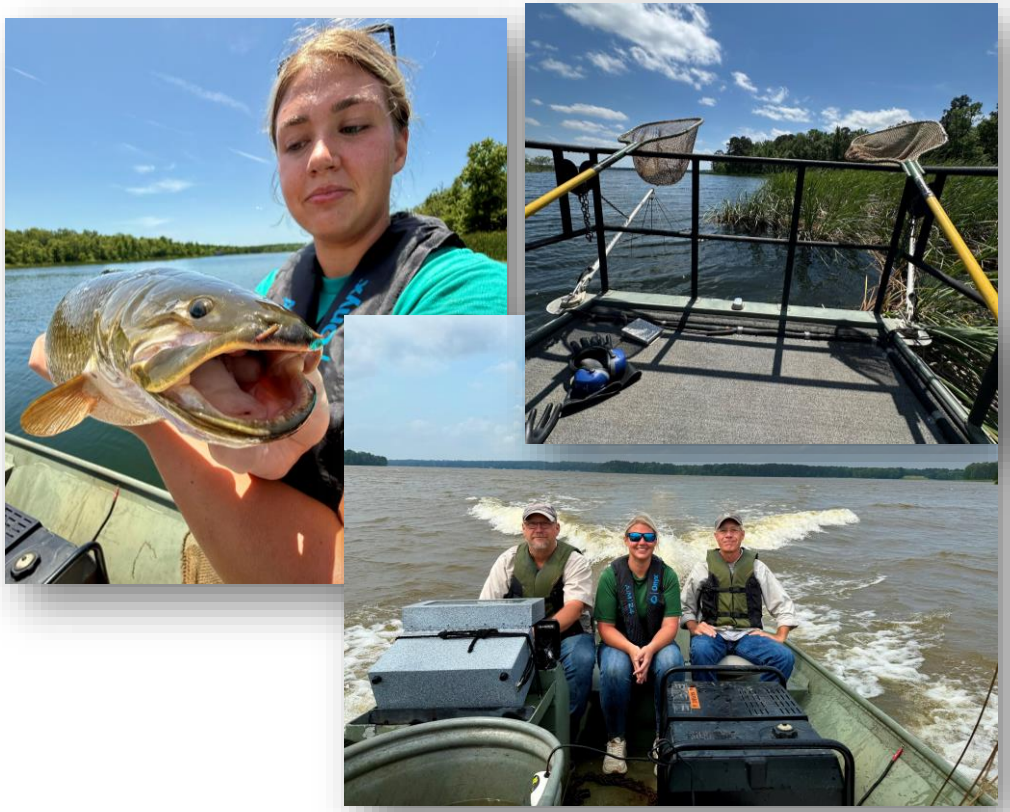
Shells, Scales and Other Wildlife Tales

Fish tissue sampling with TCEQ:

- Serves to assess the levels of chemical contaminants in fish populations, providing insights into environmental health and potential risks to human health from consuming contaminated fish.
- Monitoring fish tissue over time helps track changes in contaminant levels and assess the effectiveness of environmental regulations and restoration efforts.
- Fish are good indicators of overall aquatic ecosystem health because they accumulate contaminants from their environment through diet and direct exposure.



Shells, Scales and Other Wildlife Tales

We thought you otter know:

- High concentrations of pollutants like PCBs and mercury found in otters.
- When threatened or frightened, they emit a scream that can be heard up to 1.5 miles across the water.
- A third eyelid, the nictitating membrane, protects the eye and allows the otter to see when swimming underwater.
- Their long whiskers allow them to detect prey in dark or cloudy water.

Shells, Scales and Other Wildlife Tales

‘Ssssssup guys?:

- Snakes make up a significant proportion of the middle-order predators that keep our natural ecosystems working.
- Studies have shown that snake scales can be used to assess up to 19 metals and metalloids.
- Declining snake populations serve as an early warning sign of environmental problems in wetlands and other aquatic ecosystems.
- Snakes are also affected by air pollution due to lung sensitivity.

Additional Resources

- Texas Commission on Environmental Quality Clean Rivers Program
  - http://www.texascleanrivers.org
- Surface Water Quality Monitoring Procedures Manual
  - https://www.tceq.texas.gov/publications/rg/rg-415
- Upper Neches Basin Quality Assurance Project Plan (QAPP)
  - https://www.anra.org/wp-content/uploads/ANRA_FY2425CRPQAPP_Executed.pdf
  - ANRA FY 2024-2025 QAPP Amendment 1
- ANRA CRP Monitoring Activities
  - https://www.anra.org/conservation-recreation/water-quality-activities/clean-rivers-program/monitoring-activities/
- Coordinated Monitoring Schedule
  - http://cms.lcra.org
- ANRA Education and Outreach Materials
  - https://www.anra.org/conservation-recreation/water-quality-activities/water-quality-education-outreach/
- ANRA 2025 Basin Highlights Report
  - https://www.anra.org/wp-content/uploads/2025-BHR-FINAL.pdf

Comments or Questions?

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

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