



Nonpoint Source
PROGRAM

Annual Report

Federal Fiscal Year (FFY) 2023



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1.0 EXECUTIVE SUMMARY

The Louisiana Department of Environmental Quality (LDEQ) administers Louisiana's Nonpoint Source (NPS) Program and collaborates with the Louisiana Department of Agriculture and Forestry (LDAF) and other agencies and organizations to implement the statewide program to improve water quality across the state. Activities undertaken through these partnerships include prioritization of watershed planning and implementation activities, evaluating progress, and reporting program activities. This interagency coordination is the strength of Louisiana's NPS Program, resulting in water quality restoration and improvement, as well as success stories for the state. Louisiana's federal fiscal year (FFY) 2023 NPS Annual Report has been prepared in compliance with Section 319 of the Clean Water Act (CWA). This report outlines progress made in reducing NPS pollution and improving water quality within Louisiana. Sources of NPS pollution include agricultural production, forestry, sand and gravel mining, urban storm water runoff, construction, and onsite disposal systems (OSDS).

OSDS maintenance issues continue to be a concern in Louisiana; therefore, LDEQ-NPS continues to place emphasis on water quality problems associated with OSDS. Several partners remain actively involved in inspecting systems and educating homeowners on the importance of protecting Louisiana's waterways by properly maintaining sewage systems. Partners engaged in this effort include Capital Resource Conservation & Development Council (RC&D), Louisiana Rural Water Association (LRWA), Bayou Vermilion District (BVD), and Barataria-Terrebonne National Estuary Program (BTNEP).

In 2023, the NPS Program and its partners participated in watershed restoration activities and education and outreach across the state. These activities led to substantial progress in reducing NPS pollution, improving water quality, and therefore, will continue to be implemented in watersheds in need of restoration. 2023 NPS Program highlights are as follows:

- LDEQ participated in 13 outreach and educational events;
- LDEQ and LDAF managed approximately \$2.6 million of Section 319 grant funds in order to implement projects to reduce NPS pollution and improve water quality;
- LDEQ continued watershed planning and implementation activities with one watershed coordinator (WSC) and three watershed groups that are located in various parts of the state;
- LDEQ completed a watershed plan on two subsegments within the Terrebonne Basin, which was subsequently approved by EPA;
- LDEQ, LDAF, and United States Department of Agriculture - National Resources Conservation Service (USDA-NRCS) continue partnering in watersheds prioritized through the National Water Quality Initiative (NWQI);
- LDEQ's NPS and Total Maximum Daily Load (TMDL) staff worked together on the New Vision Initiative;
- LDEQ Water Surveys (WS) staff provided water quality sampling for the NPS program in 15 watersheds; several partners provided water quality sampling for the NPS program in five watersheds.
- Louisiana continues to focus on watershed planning, assessment, monitoring and implementation in 20 watersheds;
- LDEQ's Drinking Water Protection Program (DWPP) implemented activities in Vermilion-Teche, the Lake Pontchartrain Basin, the Mississippi River Basin, and the Pearl River Basin;
- LDEQ published monitoring data in EQuIS and the EPA WQX Data Warehouse for active watersheds;
- LDEQ developed maps using the Watershed Delineator from the ArcGIS Soil and Water Assessment Tool (ArcSWAT) for active watersheds to assist in watershed planning, implementation, and monitoring.

LDEQ's DWPP staff engaged in source water protection (SWP) activities in various parishes, which included educating local businesses identified as potential sources of contamination to drinking water sources, conducting public community meetings and school presentations, developing contingency plans with water systems, as well as updating source water assessment data.

LDEQ, LDAF, and the USDA-NRCS continue to work together to improve the process of restoring and protecting watersheds. The success of LDEQ's NPS program is attributed to proficient collaboration of federal, state, and local governments, collaborating with universities, non-profit organizations, and the public. These alliances will continue to be the basis for watershed and statewide efforts during 2024.

2.0 SECTION 319 FUNDING

2.1 LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY NONPOINT SOURCE PROGRAM

Louisiana’s NPS program receives funding through CWA Section 319, prioritized to fund projects in coordination with USDA’s Farm Bill, to implement its water quality goals and objectives. LDEQ continued collaborating with partners to conduct water quality monitoring, inspect OSDS systems, and to assist in developing WIPs to be implemented by LDAF and USDA-NRCS in NPS priority watersheds.

LDEQ utilized approximately \$3.3million in CWA Section 319 funds to support the NPS and Source Water Protection Program (SWPP), watershed coordination, NPS monitoring, watershed planning, and conservation practice implementation, to protect and/or restore recreational waters and drinking water supplies. Table 1 illustrates LDEQ Section 319 grant expenditures.

Grant Year	LDEQ (Federal)	Match
FFY18	\$386,500.00	\$257,667.00
FFY19	\$382,700.00	\$255,133.00
FFY20	\$398,900.00	\$265,933.00
FFY21	\$409,600.00	\$273,067.00
FFY22	\$409,600.00	\$273,067.00
TOTAL	\$1,968,900.00	\$1,324,867.00

Table 1. LDEQ Section 319 Grant Expenditures

2.2 LOUISIANA DEPARTMENT OF AGRICULTURE AND FORESTRY

To provide technical assistance and best management practices (BMPs) through cost-share and incentive payments, LDAF expended approximately \$632,587.35 on watershed implementation within multiple watersheds around the state. Implementation, planning and/or technical assistance was conducted on approximately 10,853.66 acres of private farmland in an effort to restore or partially restore surface water quality in seven priority watersheds within the Ouachita River, Mermentau River, and Vermilion-Teche Basins. Table 2 illustrates LDAF Section 319 grant expenditures.

Grant Year	LDAF (Federal)
2017	\$80,343.12
2018	\$416,347.67
2019	\$112,633.83
2020	\$23,262.73
TOTAL	\$632,587.35

Table 2. LDAF Section 319 Grant Expenditures

3.0 WATER QUALITY MONITORING AND IMPLEMENTATION

3.1 LDEQ NONPOINT SOURCE

In FFY 2023, water quality monitoring continued in 19 watersheds (Table 3). The data collected assists LDEQ and its partners in making valuable decisions. Pre-BMP monitoring assists in identifying critical areas contributing to NPS pollutant loads. This aids in the selection of the appropriate types of BMPs needed in the most suitable locations. Post-BMP monitoring assists LDEQ and partners in determining if water quality is improving.

Watershed	Subsegment	Basin
Comite River	040103	Lake Pontchartrain
Middle Amite River	040302	
Yellow Water River	040504	
Bayou des Cannes	050101	Mermentau River
Bayou Mallet	050103	
Bayou Queue de Tortue	050501	
Bayou Chene	050603	
Bayou Courtableau	060204	Vermilion-Teche River
Bayou du Portage	060703	
Vermilion River	060801	
Thompson Creek	070502	Mississippi River
Bayou Bartholomew	080401	Ouachita
Big Creek (North)	080903	
Bayou Lafourche	080904	
Lake St. Joseph	081202	
Hemphill Creek	081609	
Bayou Grosse Tete	120104	Terrebonne
Bayou Maringouin	120111	
Bayou Folse	120305	

Table 3. Watersheds in which water quality monitoring was conducted in FFY2023

LDEQ’s NPS staff developed WIPs indicated in Table 4. WIPs developed for other priority watersheds are updated as necessary, as water quality data becomes available, and projects identified in the plan are implemented. In FFY 2023, LDEQ-NPS completed WIPs and submitted to EPA R6 for review, which were accepted/approved in October 2022. Watersheds are indicated in Table 4.

Watershed	Subsegment	Basin
Bayou Grosse Tete	120104	Terrebonne
Bayou Maringouin	120111	Terrebonne

Table 4. Draft WIPs accepted in October 2022

Watershed planning for the watersheds indicated in Table 5 began in FFY 2023 and will still be in progress during FFY 2024.

Watershed	Subsegment	Basin
Bayou Courtableau	060204	Vermilion Teche
Bayou Bartholomew	080401	Ouachita

Table 5. Watershed planning to begin FFY 2023

3.2 LOUISIANA DEPARTMENT OF AGRICULTURE AND FORESTRY

LDAF provided technical assistance and BMP implementation on 10,853.66 acres in seven watersheds, see Table 6.

Watershed	Acres Implemented / Technical Assistance	Basin
Bayou Queue De Tortue	1,470	Mermentau River
Bayou Des Cannes	2,160	Mermentau River
Bayou Mallet	1,385.60	Mermentau River
Vermilion River	51	Vermilion Teche
Big Creek (North)	3,482	Ouachita River
Bayou Du Portage	2,305.06	Vermilion Teche
TOTAL	10,853.66	

Table 6. Technical Assistance and BMP implementation

These BMPs were carried out through the traditional conservation partnership cooperation between the USDA-NRCS, the LDAF and participating Soil and Water Conservation Districts (SWCDs). These local SWCDs included Acadia, Vermilion, St Martin, Lafayette, St. Landry, Lasalle, Evangeline, and Bouef River. Signed contracts establish the participant's BMP payment schedules and implementation requirements, defining the relationship between themselves and the federal-state-local conservation delivery team. To attain water quality objectives, an array of proven conservation practices such as grade stabilization, conservation, prescribed grazing, heavy use area protection, critical area planting, irrigation land leveling, tillage and residue management, and others, were cost-shared through this program. Participants are required to implement a conservation plan through which additional BMPs are prescribed. These additional BMPs further ensure reduction of water quality impairments and exceed the participants required matching funds. To ensure effective delivery of these necessary BMPs, LDEQ provides water quality data, watershed modeling, planning, targeted sampling, mapping, and other critical logistical assistance to ensure maximum effectiveness for our collective efforts in restoring water quality in agricultural settings.

4.0 COORDINATION WITH PARTNERS

4.1 LDEQ WATER SURVEYS

The LDEQ WS staff fundamentally serves the Department as an intrinsic element of sampling efforts. WS successfully monitored 15 NPS watersheds [refer to Table 7]. The data collected helps establish current water quality conditions in the watersheds, identifying geographic areas for targeting BMPs and OSDS inspection locations; and tracks changes in water quality over time from BMP implementation and OSDS inspections in the watersheds.

WS also collaborates with the LDEQ Water Permits Division, Standards and Assessment, and the TMDL group under the long-term vision projects for assessment, restoration and protection under the Clean Water Action Section 303 (d) Program.

Basin	Water Body	Ws Monitoring Supports
Lake Pontchartrain Basin	Comite River (040103)	OSDS Inspections
Mermentau River Basin	Bayou des Cannes (050101)	LDAF BMPs
	Bayou Mallet (050103)	LDAF BMPs
	Bayou Queue de Tortue (050501)	LDAF BMPs
	Bayou Chene (050603)	LDAF BMPs
Vermilion-Teche River Basin	Bayou Courtableau (060204)	LDAF BMPs (TBD upon WIP-acceptance)
	Bayou du Portage (060703)	LDAF BMPs
	Vermilion River (060801)	OSDS Inspections / LDAF BMPs
Ouachita River Basin	Bayou Bartholomew (080401)	LDAF BMPs (TBD upon WIP-acceptance)
	Big Creek (North) (080903)	LDAF BMPs
	Bayou Lafourche (080904)	LDAF BMPs *One year post monitoring completed 09/30/2023
	¹ Lake St. Joseph (081202)	LDAF BMPs * IJA BIL Funding / WIP NA
	Hemphill Creek (081609)	LDAF BMPs
Terrebonne Basin	Bayou Grosse Tete (120104)	LDAF BMPs
	Bayou Maringouin (120111)	LDAF BMPs

¹Lake St. Joseph (081202) monitoring will support the Louisiana Nutrient Loading Reduction through the Bipartisan Infrastructure Law (BIL) Gulf Hypoxia Program (GHP) to conduct targeted agricultural BMPs implemented on prioritized tracts within the Lake St. Joseph and Cypress Bayou watersheds to reduce agriculture-induced nutrient loading in the Tensas River Basin.

Table 7. Monitored NPS watersheds

New Vision Activity		
Water Planning and Assessment Division / TMDLS	New River (040404) Monitoring	NPS OSDS Inspections beginning 10/01/23
	Natalbany River (040503) Monitoring	NPS OSDS Inspections

Table 8. New Vision Watersheds

WS brings a multifaceted qualitative approach to characterizing and observing the size and appearance of these waterbodies and their surroundings to gain perspective and understanding of the watersheds. This along with the quantitative research through sampling data analysis can assist in determining the causes and effects of an impaired watershed by tracking water quality changes through BMP implementation and OSDS inspections.

4.2 WATER STANDARDS AND ASSESSMENT

The Water Quality Standards and Assessment Section conducts work to support appropriate water quality standards and to routinely assess their degree of support in state waters. The Section also curates water quality data collected by regional field staff. Activities performed by the section during the fiscal year include:

- Evaluated 78 dissolved oxygen criterion failure notifications for the possibility of deployment of dissolved oxygen continuous monitors (DOCM).
- Performed data evaluation procedures to review data packages (441 lab datasets and 5 DOCM datasets) used for water quality standards, assessment and/or modeling projects
- Prepared an approach to translate narrative nutrient criteria for assessment purposes for inland rivers and streams;
- Developed a Quality Assurance Project Plan (QAPP) for Monitoring to Support Water Quality Standards Review;
- Developed QAPPs for the Hypoxia Task Force (HTF) Bipartisan Infrastructure Law (BIL) Gulf Hypoxia Program (GHP) projects: Pilot Transition to Autonomous Monitoring from Inshore to Offshore in Coastal Louisiana; and Lake St. Joseph, Louisiana, Nutrient Loading Reduction; continued to monitor progress and develop annual reports;
- Continued to review data in preparation of development of draft approach of translators of narrative nutrient criteria for assessment purposes for inland lakes and reservoirs;
- Continued work on clarifying methodology of aquatic life criteria calculations not explicitly expressed in 1985 Guidelines;
- Continued to review draft descriptive statistic results for water quality parameters collected in the Southern Plains Terrace and Flatwoods Ecoregion (SPTF);
- Continued development of coastal dissolved oxygen criteria;
- Continued preparation of draft methods for developing appropriate numeric turbidity criteria for select waterbodies;
- Continued review of data collected for the Biotic Ligand Model (BLM) and Selenium monitoring project to evaluate models;
- Continued editing and markup request processes of the NHD for Louisiana until USGS paused, saved, and stored as a static product in December 2022;
- Continued maintenance and updates of the LEAU Web Portal to facilitate public access to water quality data (<https://waterdata.deq.louisiana.gov>);
- Continued collection of fish tissue for the Louisiana Mercury Initiative and the updating of fish consumption advisories in Louisiana;
- Continued maintenance of a Fishing Consumption and Swimming Advisories web map and application for smartphones (www.deq.louisiana.gov/page/fishing-consumption-and-swimming-advisories);
- Continued review of ambient water quality monitoring site station types;
- Continued preparation of the 2024 Integrated Report
- Continued management of contract for study of microplastics sources and types in Toledo Bend;
- Continued review of 316(b) (cooling water intake structure studies and reports) for Water Permits Division
- Completed the FY17-18 106 Supplemental Monitoring Grant that supported two nutrient studies;
- Completed planning and sampling began for the Clean Metals project
- Completed sampling activities for the CyanoHAB Pilot Study to examine cyanobacteria impacts to coastal waters in relation to EPA released toxin guidelines
- Completed sampling activities for the Pesticides Study

- Completed a cycle of triennial review with rule WQ111
- Participated in LDEQ Monthly Water Program Workgroup meetings;
- Participated in LDEQ and EPA R6 conference calls on 303(d), TMDL, and water quality standards activities;
- Participated in ammonia criteria stakeholder meetings;
- Participation in meetings/calls with various groups interested in credit generation for the Louisiana Water Quality Trading Program (<https://deq.louisiana.gov/page/water-quality-trading>);
- Participated in discussion with Minnesota Pollution Control Agency regarding chloride and sulfate aquatic life criteria;
- Participated in statistical software training for SAS® Viya®;
- Participated in EPA's development of TADA R Package workgroup;
- Participated on the ACWA Watersheds Committee, Monitoring, Standards and Assessment Committee, Nutrients Policy Committee, and Executive Committee;
- Participated in the ACWA PFAS Workshop in Washington, DC., the ACWA Annual Meeting in Boise, Idaho, the Clean Water Cross-Program Workshop in Denver, Colorado; and the Water Quality Monitoring Workshop in Salt Lake City, Utah;
- Participated in monthly to quarterly calls for GOMA Water Resources and Data & Monitoring Teams, represented Team-Lead for Water Resources, which additionally includes monthly Alliance Coordination Team meetings and team internal meetings, and attended the All Hands Meeting in Austin, TX, providing updates on LA projects and input on priorities for the Governor's Action Plan IV;
- Participated in monthly Louisiana GIS Council Meetings;
- Participated in Lower Mississippi River Conservation Committee calls as Water Quality chairperson and attended 2023 annual meeting virtually;
- Participated in HTF Coordinating Committee meetings every other month and attended in-person meeting December 2022;
- Participated in establishment of a Lower Mississippi River Sub-Basin Committee under the HTF;
- Participated in Louisiana State Interagency Nutrient Strategy Team coordination efforts;
- Participated in USGS National Hydrography Technical Exchange, Hydrography Community, and National Hydrography Stewards groups;
- Participated in EPA's 19th Annual Drinking Water Workshop;
- Participated in NWQMC's 13th National Monitoring Conference in Virginia Beach, Virginia;
- Participated in the 2023 National Mitigation & Environmental Markets Conference in Jacksonville, FL.;
- Participated in EPA's May 2023 Water Quality Standards Academy Session;
- Participated in the Louisiana Envirothon, attended monthly meetings, developed and graded student exams in line with national curriculum;
- Participated in the annual Ocean Commotion outreach event by demonstrating the Walnut Bayou river model;
- Participated in the Louisiana Chapter of the American Fisheries Society annual meeting;
- Participated in the state Aquatic Connectivity Team, working with Southeast Aquatic Resources Partnership (SARP) to improve and protect aquatic habitats and resources;
- Participated in ELI's National Training Workshop on Water Quality Data, Assessment, and Plans in Shepherdstown, WV.;
- Participated in PFOA/PFOS Aquatic Life Criteria Implementation Workgroup;
- Participated in Lake Pontchartrain Basin Restoration Program Meetings;
- Participated in Interstate Mercury Education and Reduction Program activities, including meetings (biweekly to monthly) and technical review of mercury related issues;
- Participated in Phycotec's phycology and algal-related training in St. Joseph, MI
- Presented on LDEQ's Integrated Report process and 2022 Summary at the State of the River-Vermilionville hosted by the Bayou Vermilion Preservation Association in Lafayette, La.; LDEQ's LPDES Inspector/Enforcement Writer Training in Chatham, La; and at the Lower Mississippi River Science Symposium in New Orleans, La.;
- Presented virtually on LDEQ's Water Quality Trading Program at an EcoMetrics/Aqaix meeting, and at a United States Business Council for Sustainable Development meeting; and

- Presented on the Fishing Consumption and Swimming Advisories web map and the Louisiana Water Quality Standards at the 2023 Louisiana Chapter of the American Fisheries Society annual meeting in Baton Rouge, La.

4.3 TOTAL MAXIMUM DAILY LOAD SECTION: A STATE PLAN FOR PRIORITIZING WATERSHEDS FOR RESTORATION AND PROTECTION IN LOUISIANA

The CWA Section 303(d) Program provides effective integration for implementation of activities to restore and protect the nation’s aquatic resources where the waters have been assessed. The primary goals of the “New Vision” approach to the TMDL program include prioritization, assessment, protection, alternatives, engagement, and integration. Restoration and protection objectives have been systematically prioritized, and TMDLs and alternative approaches are being adaptively implemented to achieve water quality targets with the collaboration of states, federal agencies, tribes, stakeholders, and the public, from 2016-2022. The EPA worked together with states to develop the New Vision and six goal statements to help coordinate and focus efforts in advancing the effectiveness of the program. The vision and goals are neither regulation nor policy guidance but provide a mechanism for EPA and states to better manage the program to achieve water quality goals. EPA encouraged each state to embrace the vision concept and develop a strategy that outlines a comprehensive, integrated, and iterative approach to addressing the challenge of achieving and communicating water quality improvements.

In 2021 and 2022, EPA and the states worked together to update this “New Vision” approach for 2023-2032. While the wording may have changed slightly, all the concepts and functionalities of the original vision remain.

Initially, LDEQ identified seven priority watersheds under this New Vision approach in the 2016 Integrated Report. They were Tunica Bayou (070505), Bayou Sara (070501), Turkey Creek (080905), Yellow Water River (040504), Natalbany River (040503, 040507), Blind River (040401, 040403), and New River (040404). In an effort to optimize limited resources, LDEQ removed subsegment 080905 Turkey Creek from the list of priority watersheds in 2017 due to the limited access to the waterbody and uncertainties regarding potential loading sources and causes.

EPA accepted the final restoration plan for the first priority watershed, Tunica Bayou, on October 5, 2020. LDEQ completed 19 months of monitoring in Yellow Water River by September 2019. Except for one site being monitored to guide restoration activities, monitoring for the Natalbany River was completed in March 2021. Watershed investigations of point and nonpoint sources as well as outreach and engagement activities are ongoing for both watersheds. A draft New Vision plan for Yellow Water River is currently under development. Watershed investigations for Bayou Sara were conducted in 2017 and 2018 and a draft New Vision plan is currently under development. LDEQ began monitoring New River in July 2021 and Blind River in February 2022. Monitoring in both watersheds is ongoing and New Vision plans are expected in 2024.

There has been a long-term connection between the Section 319 NPS program and the CWA 303(d) programs. LDEQ remains committed to integrating across federal and state water programs, engaging the public and stakeholders, and adaptively developing, evaluating, and implementing TMDLs and TMDL alternatives to ensure strategic use of available resources to achieve water quality goals.

4.4 USDA-NRCS INITIATIVES

During FY 2023, LDEQ, LDAF and USDA-NRCS continued to coordinate efforts in watersheds prioritized through USDA’s Mississippi River Basin Initiative (MRBI), NWQI and Gulf Spill Restoration Nutrient Reduction Projects (see Tables 9-13). Through the funding acquired from the USDA Farm Bill and Section 319, USDA and LDAF work with land owners and producers to implement agricultural BMPs through cost share agreements. LDEQ utilizes Section 319 grant funds for several contracts to aid in monitoring and assistance from partners. WS performs watershed assessment and characterization, pre-BMP sampling to collect baseline data used to determine critical areas for BMP implementation, and post-BMP sampling to determine the changes in water quality.

4.4.1 Mississippi River Basin Initiative (MRBI)

The overall goals of the MRBI include reducing fall tillage and keeping the soil covered by increasing the use of cover crops and/or increasing residue to reduce soil loss. NRCS assists producers in improving nutrient management techniques above their current level to increase nutrient utilization. NRCS, SWCDs, and other partners develop targeted outreach plans to reach every producer within the watershed. Conservation planning and technical assistance are offered at no charge to help producers address the watershed goals and to improve water quality. In FY 2023, **\$553,061.12 dollars** were obligated on **3,502.90 acres** for MRBI in Louisiana (See Table 9). These watersheds will have a 5-year project life.

Watershed	12-Digit HUC	FY23 Funds Obligated	FY23 Acres Obligated
Wildhorse Bayou Tensas River	080500030402	\$219,575.88	1,481.50
Tiger Bayou	080402070301	\$0.00	0
Baxter Bayou (East Carroll Parish)	080500020501	\$69,194.5	501.8
Hill Bayou – Bayou Macon	08050020403	\$264,290.65	1,955.10

Table 9. USDA – FY2022 Mississippi River Basin Initiative Watersheds

4.4.2 National Water Quality Initiative (NWQI)

The National Water Quality Initiative provides a way to accelerate voluntary, on-farm conservation investments and focused water quality monitoring and assessment resources where they can deliver the greatest benefits for clean water. NWQI has been extended through Fiscal Year (FY) 2024, with some updates to strengthen program delivery. Updates include a focus on watershed assessment and planning and including multi-year budgets to demonstrate long-term commitment in assisting water quality efforts. Louisiana implemented the NWQI project in the 2 watersheds below (See Table 10).

Watershed	12-Digit HUC	FY23 Funds Obligated	FY23 Acres Obligated
Bayou Plaquemine Brule-Estherwood	080802010206	\$0.00	0
Bayou Blanc-Bayou Plaquemine Brule	080802010208	\$15,368.56	72.4

Table 10. USDA –NWQI Watersheds Approved for FY2022 Implementation

Louisiana is approved to begin Implementation Phase for FY24 for the following NWQI watersheds in Morehouse Parish (see Table 11).

Watershed	HUC 12
Walkers Slough-Bayou Bartholomew	080402050802
Lower Overflow Creek	080402050805
White Oak Creek	080402050903
Outlet Chemin-a-Haut Creek	080402050905
Caney Bayou-Bayou Bartholomew	080402051001
Cypress Bayou-Bayou Bartholomew	080402051002
Horse Bayou-Bayou Bartholomew	080402051003

Table 11. FY 2022 USDA - National Water Quality Initiative Watersheds Approved for Implementation Phase

4.4.3 Natural Resource Damage Assessment Trustees – Nutrient Reduction (Nonpoint Source) Projects

Louisiana NRCS was awarded four Nutrient Reduction Projects from the Gulf Spill Restoration funding. The primary goal of these project themes is to improve water quality through nutrient reduction on agricultural lands. This includes targeting efforts for measurable impact by clustering projects at the HUC 12 watershed scale that directly impact coastal wetlands.

Landowners will participate on a voluntary basis in developing and implementing conservation plans to reduce nutrient and sediment runoff to improve water quality. Participants will receive technical and financial assistance to implement conservation practices according to NRCS standards and specifications. A monitoring and adaptive management plan will be implemented to document the relationship between implementation and load reduction.

Watershed	HUC 12	FY23 Funds Obligated (\$)	FY23 Acres Obligated
Crittenden Creek/Tickfaw	80702030103	\$169,962.42	762.5
Beaver Creek	80702050201	\$512,815.79	465.5
Total		\$682,778.21	1,228

Table 12. Project 1 - Nutrient Reduction on Dairy Farms in St. Helena and Tangipahoa Parishes

Project 2 - Nutrient Reduction on Dairy Farms in Washington Parish

- No change in obligated funds or acres for FY23

Project 3 - Nutrient Reduction on Cropland and Grazing Lands in Bayou Folsé

- No change in obligated funds of acres for FY23

Watershed	HUC12	FY23 Funds Obligated (\$)	FY23 Acres Obligated
Cameron Frontal Canal	80802020602	\$269,020	784
Thornwell Drainage Canal	80802020206	\$88,052	355
Lake Arthur	80802020302	\$138,602	428
Latanier Bayou	80802020603	\$50,409	368
Maple Marsh	80802020601	\$62,199	464
Total		\$608,282	2,399

Table 13. Project 4 - Winter Water Holding on Cropland in Vermilion and Cameron Parishes Plus Ag BMPS

4.5 WATERSHED COORDINATORS AND WATERSHED GROUPS

Watershed groups and WSCs continue to serve as valuable partners in implementing Louisiana’s NPS program. In FFY 2023, LDEQ continued to collaborate with Capital RC&D, BTNEP, LRWA, and BVD. These partnerships accomplish several goals listed in Louisiana’s NPS Management Plan including:

- Involving appropriate stakeholders in watershed implementation;
- Statewide educational programs;
- Identifying priority areas in the watershed for BMPs implementation;
- Implementing BMPs in watershed priority areas;
- Water quality monitoring and data analyses to evaluate water quality changes; and
- Preparing success stories or identifying future actions needed to achieve success.

These WSC and watershed groups are dedicated to restoring and preserving the water quality in the areas where they live and serve.

4.5.1 Capital RC&D

Capital RC&D completed its “Nonpoint Source (NPS) Pollution Reduction through Enhancement of the On-Site Wastewater Disposal Systems (OSDS) Inspection, Educational Outreach, and Sampling” project in September 2023. The project targeted five watersheds: Yellow Water River, Comite River, Thompson Creek, Middle Amite River, and Natalbany River. These watersheds were listed on Louisiana’s IRs as not supporting one or more designated uses of primary contact recreation (PCR), secondary contact recreation (SCR), and fish and wildlife propagation (FWP).



The goal of this project was to reduce NPS pollution with the objectives of improving surface water quality and restoring support for CWA designated uses, and maintaining healthy waters. This goal was accomplished by monitoring water quality to determine critical areas with high fecal coliform (FC) concentrations in the watersheds. These areas then became the focus of OSDS inspections to ensure properly functioning systems. Both Capital RC&D and partners worked together to accomplish the goals of the project. At the conclusion of the project, 2,588 OSDSs had been inspected. Of the 2,588 OSDSs inspected, 556 were found to be not working and 607 OSDSs were repaired (some had been inspected during the previous project period). Capital RC&D estimated that a total load reduction of 11,533,000 colony-forming units of FC was achieved in the watersheds at the conclusion of the project.



Figure 1 – Ditch in front of home polluted due to home waste system not working



Figure 2 – Aerator covered in ants and not working

Capital RC&D commented that this was, with the exceptions of excessive summer heat and drought, a normal year for the project. They were able to communicate with partners and adjust work schedules and locations during the summer months to make progress in improving Louisiana’s water quality.

4.5.2 Barataria –Terrebonne National Estuary Program

This fiscal year, BTNEP and LDEQ continued their partnership in the Bayou Folsé watershed restoration, through the ongoing project: “Water Quality Sampling, On-Site Waste Disposal Systems (OSDS) Inspections and Educational Outreach in the Barataria-Terrebonne Basins.” This project supports the NRCS, the Bayou Lafourche Freshwater District, and other cooperative work to address water quality issues in this subsegment.



Bayou Folsé is impaired for FWP due to low dissolved oxygen (DO), nutrients, and sediment. In addition, sampling from multiple sites within the watershed show high concentrations of fecal coliform bacteria. The watershed implementation plan calls for addressing loading caused by malfunctioning home sewage treatment systems and from agricultural runoff. There are more than 4,600 home sewage systems in this watershed, many are poorly functioning and not maintained. Bayou Folsé also receives runoff from pastureland and row crop agriculture, which adds further loading of sediments, nutrients, and bacteria.

Partners were able to target for NPS reduction measures based on past sampling and track changes in water quality over time through current monitoring data as partners work to restore water quality through education, conservation implementation, and outreach to address malfunctioning OSDS.

Over the course of this year, the project collected water quality data at ten sampling locations within the subsegment. BTNEP conducted 12 sampling events that included measuring field parameters, such as

temperature, pH and DO, and collecting grab samples for laboratory analysis of nutrients, sediment, fecal coliform bacteria. In addition, velocity measurements were taken at the ambient water quality monitoring site to estimate flow.

Water quality education and outreach continues to be a priority for BTNEP. This year they participated in over 35 education and outreach events in addition to OSDS education outreach. These events offer BTNEP the opportunity to inform residents and other members of the public of water quality issues in Bayou Folve, nonpoint source pollution processes, and ways to reduce runoff pollution.

BTNEP outreach also includes informing homeowners in the region on the importance of maintaining properly functioning home sewage treatment systems. BTNEP oversaw 236 inspections of home treatment systems to determine operational status, need for repairs, and conduct homeowner education. The OSDS inspector performed 18 re-inspections as a follow-up to determine repair status. Additionally, BTNEP continues to implement a Gulf of Mexico Program grant to cost-share necessary repairs with homeowners. Going forward, BTNEP will also be implementing a Bipartisan Infrastructure Law-funded, home sewage assistance program that is designed to target Justice 40 households in the Bayou Folve watershed.

4.5.3 Bayou Vermilion District

BVD’s Department of Water Quality conducted an educational and outreach campaign to educate homeowners, business owners, and the general public about the proper function and maintenance of individual OSDS. The educational and outreach campaign was comprised of a door-to-door campaign where homeowners and business owners were offered a free system inspection and were given a “Not in My Backyard” educational brochure. BVD also presented a booth at the Bayou Vermilion District’s annual State of the River event. The table below summarized Inspections through December.



Bayou Vermilion District Educational Inspection Program Progress Year 2023							
Month	Total for Month:	Total Initial:	Initial Passed	Initial Failed	Total Follow-Up:	Follow-Up Passed	Follow-Up Failed
Jan 23	1	1	0	1	0	0	0
Feb 23	40	36	9	27	4	4	0
Mar 23	44	25	12	13	19	9	10
Apr 23	51	37	21	16	14	6	8
May 23	85	59	26	33	26	21	5
Jun 23	87	55	32	23	32	18	14
Jul 23	68	43	22	21	25	15	10
Aug 23	64	37	20	17	27	12	15
Sep 23	36	15	9	6	21	10	11
Oct 23	33	21	12	9	12	10	2
Nov 23	57	33	14	19	24	16	8
Dec 23	50	10	2	8	40	20	20
Grand Totals:	616	372	179	193	244	141	103

	Initial Inspections Passed:	48.12%		Total Inspections Passed: YTD	366
	Initial Inspections Failed:	51.88%		Total Inspections Failed: YTD	55
				Pass/Fail Ratio: YTD	86.94%
	Final Passed w/ Follow-Ups:	57.79%			
	Final Failed w/ Follow-Ups:	42.21%		Impossible Locations: YTD	182

Table 14. BVD's inspections from January 2023 through December 2023

4.5.4 Louisiana Rural Water Association

The LRWA is a non-profit organization whose mission is to promote public health, assist operators of small water and wastewater systems through training, on-site technical assistance, and state operator certification necessary for promoting public health and environmental protection for the state of Louisiana. LRWA collaborated with LDEQ to conduct OSDS inspections and utilize focused/project-targeted workshops on an as-needed basis to improve water quality and restore designated uses to impaired watersheds. LRWA completed OSDS inspections in Calcasieu Parish and started OSDS inspections in Terrebonne Parish.



LRWA was able to raise awareness concerning the importance of maintaining home sewage systems and provide residents information regarding the importance of the proper operation and maintenance of their home sewer system through this door-to-door campaign. During each visit, the inspector discussed operation and maintenance practices, addressed homeowner's questions and provided a visual inspection of the system. When the homeowner was not present, the field inspector would leave an educational/informational brochure explaining the purpose of their visit and offered the homeowner a sewer system inspection at no cost.

Public awareness of OSDS inspections and education was accomplished by distributing informational brochures at the city/town halls; notifying parish presidents by letter and/or phone calls and through public advertisements to draw interest to the local area activities and encourage participation. A summary of activities was given to the parish city/town hall once inspections were completed indicating progress made. This process could also be a means to encourage the residents who were not originally on the Louisiana Department of Health (LDH) OSDS list and those who initially refused inspections to become proactive.

The inspector made initial visits to homeowners in Calcasieu Parish. The inspector later conducted follow-up visits to homeowners from the last fiscal year that had problems with their sewer system. The inspector checked to see if the problems were repaired. Table 15 details the inspection results.

Calcasieu Parish Inspection Results		
15,423	Total OSDS Homeowners Targeted	
1,361	Contacted/Spoke with Homeowners	
	1,322	sewer inspections conducted - initial
	39	homeowners refused inspection - initial
165	147	sewer inspections conducted - revisit/follow-up
	18	homeowners refused inspection - revisit/follow-up
1,322	Inspections conducted	
	1,267	systems in good condition - initial
	55	systems not operating or in poor condition - initial
147	139	systems in good condition - revisit/follow-up
	8	systems not operating or in poor condition - revisit/follow-up
2,117	No contact made with Homeowners	
	2,117	no one home/distributed flyers - initial
360	360	no one home/distributed flyers - revisit/follow-up
3,478	Total Flyers Distributed	
	2,117	no one home - initial
	1,322	sewer inspections conducted - initial
	39	homeowners refused inspection - initial
525	360	no one home - revisit/follow-up
	147	sewer inspections conducted - revisit/follow-up
	18	homeowners refused inspection - revisit/follow-up

Table 15. LRWA inspections from October 2022- September 2023

5.0 MEETING NPS MILESTONES

Louisiana’s NPS Management Plan includes annual milestones. In FFY 2023, Louisiana’s NPS program continued its focus on watershed planning, assessment, monitoring and implementation, in 20 waterbodies.

Basin	Waterbody	P	A	M	I	Subsegment	WIP	Success Story
Lake Pontchartrain	Comite River			<input type="checkbox"/>	<input type="checkbox"/>	040103		Approved 2023
	Middle Amite River			<input type="checkbox"/>	<input type="checkbox"/>	040302		
	Yellow Water River			<input type="checkbox"/>	<input type="checkbox"/>	040504		Approved 2015
Mermentau River	Bayou Des Cannes			<input type="checkbox"/>	<input type="checkbox"/>	050101	Approved 2017	Approved 2019
	Bayou Mallet			<input type="checkbox"/>	<input type="checkbox"/>	050103	Approved 2017	Approved 2016
	Bayou Queue de Tortue			<input type="checkbox"/>	<input type="checkbox"/>	050501	Approved 2013	Approved 2018
	Bayou Chene			<input type="checkbox"/>	<input type="checkbox"/>	050603	Approved 2020	
Vermilion-Teche River	Bayou Courtableau	<input type="checkbox"/>				060204		
	Bayou du Portage			<input type="checkbox"/>	<input type="checkbox"/>	060703	Approved 2019	
	Vermilion River	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	060801/060802	Approved 2021	
	Boston Canal					060910		Approved 2023
	Thompson Creek			<input type="checkbox"/>	<input type="checkbox"/>	070502		
	Big Creek (North)			<input type="checkbox"/>	<input type="checkbox"/>	080903	Approved 2019	
	Upper Bayou Lafourche			<input type="checkbox"/>	<input type="checkbox"/>	080904		
	Lake Providence			<input type="checkbox"/>	<input type="checkbox"/>	081101		Approved 2020
	Hemphill Creek			<input type="checkbox"/>	<input type="checkbox"/>	081609	Approved 2017	
Ouachita	Bayou Bartholomew	<input type="checkbox"/>				080401		
	Lake St. Joseph	<input type="checkbox"/>				081202		
Terrebonne	Bayou Folse			<input type="checkbox"/>	<input type="checkbox"/>	120305	Approved 2018	
	Bayou Grosse Tete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		120104	Approved 2022	
	Bayou Maringouin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		120111	Approved 2022	

Table 16. Activity in watersheds: planning (P), assessment (A), monitoring (M) and implementation (I) in FFY2023

5.1 WATER QUALITY IMPROVEMENTS

Louisiana’s NPS Program continues to strive to make significant progress in partially or fully restoring NPS-impaired watersheds. Louisiana’s NPS Management Plan’s milestones include EPA water quality measure WQ-10 for water quality improvements. Measure WQ-10 requests states to report on the number of watersheds identified in 2000 or subsequent years as primarily impaired by NPS pollutants that have been partially or fully restored.

Statewide Milestones for Water Quality Improvement	2023
Number of waterbodies identified as being primarily NPS impaired that are partially or fully-restored (WQ-10): Identify fully restored water bodies in Appendix C of state's IR primarily impaired by NPS pollutants; review NPS related activities in watershed where water body was restored; write NPS success story; and identify activities to maintain water quality.	1
Estimated annual reductions in pounds of nitrogen from NPS to water bodies (from Section 319 funded projects) (WQ-9a): Annually review information from LDAF, USDA, watershed coordinators, NPS staff and stakeholders for NPS load reductions of nitrogen; and include information in NPS annual report.	19,282.7
Estimated annual reductions in pounds of phosphorus from NPS to waterbodies (from Section 319 funded projects) (WQ-9b): Annually review information from LDAF, USDA, watershed coordinators, NPS staff and stakeholders for NPS load reductions of phosphorus: and include information in NPS annual report.	3,623.8
Estimated annual reductions in tons of sediment from NPS to waterbodies (from Section 319 funded projects) (WQ-9c): Annually review information from LDAF, USDA, watershed coordinators, NPS staff and stakeholders for NPS load reductions of sediment: include information in NPS annual report.	598.2
Number of NPS impairments removed from LA’s IR: Annually review state IR for NPS impairments (DO, FC, TSS, etc.) removed as a result of NPS activities and include information in NPS annual report. Compare the previous IR to the current IR. Number is based on the 2016 IR.	1
Progress in reducing unliquidated obligations (ULO): Percentage of ULO funds anticipated yearly for LDEQ (total remaining funds/total awarded = percentage ULO).	32.24 %

Table 17. Statewide milestones for water quality improvement, based on LDEQ’s 2020 IR

5.2 SUCCESS STORIES

A success story for Boston Canal was written and submitted to USEPA. Sediment from agricultural runoff led to a turbidity impairment in Boston Canal (Subsegment 060910). LDEQ determined the waterbody was not supporting its FWP designated use because of high turbidity concentrations in its 2010 CWA section 305(b) assessment. Beginning in 2013, LDEQ worked with LDAF, the US Department of Agriculture Natural Resources Conservation Service, and Vermilion Soil and Water Conservation District to address the impairment through water quality monitoring, conducting outreach, and implementing BMPs. These efforts prevented the erosion and runoff of an estimated 3,000 tons of soil, restoring water quality and the FWP designated use. In 2020, LDEQ removed the waterbody's turbidity impairment in the state's water quality assessment. In 2023 a success story for this water quality restoration was written and submitted to EPA, and is currently under review at EPA headquarters after having been accepted/approved by EPA Region 6.

6.0 STATEWIDE PROGRAMS

6.1 COASTAL NONPOINT POLLUTION CONTROL PROGRAM (CNPCP)

The Coastal Nonpoint Pollution Control Program (CNPCP) is a cooperative effort spearheaded by Louisiana Department of Energy and Natural Resources (LDENR) Office of Coastal Management (OCM). In May 2022 NOAA and EPA submitted a letter stating Louisiana has satisfied all conditions of approval on its coastal nonpoint program developed under Section 6217 of the Coastal Zone Act Reauthorization Amendments.

OCM participates in all of the programs described below, and LDEQ participates in many of them. These programs are generally employed statewide, although some are focused on the coastal zone.

Hydrologic Modification Impact Analysis Success Story

As part of the review process of proposed projects located within the Coastal Zone of Louisiana, the OCM evaluates potential impacts to the local hydrology. OCM utilizes the Hydrologic Modification Impact Assessment (HMIA) as a tool to evaluate if a proposed use would negatively modify the existing conditions, including the runoff flow volume and distribution, and the quality of water in the immediate and downstream areas of a project's location. During this past reporting period, an applicant submitted the proposed maintenance dredging of a portion of Bayou Terrebonne, near and in the City of Houma, LA. As part of this project, the applicant proposed to place the dredge material into a spoil disposal area. Through several communications with the applicant and revisions to the HMIA, the design of the spoil disposal area now includes a silting basin and a dredge slurry control structure that took into consideration the pre-existing local ditch and culvert drainage system capacity.

Reducing Flood Risk through Stormwater Projects

The Council on Watershed Management approved a plan which will dedicate \$100 million in federal funds to a Design Support Program for 28 flood mitigation projects with another \$100 million funding opportunity for local and regional projects. These flood mitigation efforts are targeted to implement flood risk reduction projects and programs to improve community flood resilience. Round one funding is focused on implementation-ready, low-risk programs and projects that address flood risk through a watershed-based approach. State project examples are: Ward Creek floodplain acquisition, Huffman Creek pump station and outfall improvements, East Slidell ring levee.

Louisiana Outdoors Forever

During the 2022 legislative session, the Louisiana House of Representatives and Louisiana Senate passed House Bill 762, establishing the Louisiana Outdoors Forever Program and Louisiana Outdoors Forever Fund. The purpose of this program is to provide funding for outdoor conservation projects in the State of Louisiana. The fund for the Louisiana Outdoors Forever Program provides \$10 million in funding for the program's first year. Working through voluntary conservation measures, the program will help fund projects that protect drinking water supplies, conserve wildlife habitat, provide recreational opportunities in urban and rural areas, sustain working farms and forests, etc.

Jefferson Parish 22nd Annual Stormwater Poster and Essay Ceremony

The Jefferson Parish Department of Environmental Affairs announced the winners of the 2022 Nonpoint Source Stormwater Pollution and Solutions Poster and Essay Contest, as well as the High School Sewer Science Program and the Stormwater Leadership Awards at a ceremony on May 6, 2022.

The annual Stormwater Pollution and Solutions Poster and Essay Contest was developed to raise public awareness of nonpoint source pollution, such as leakage of automotive fluids, fertilizers and pesticides,

pet waste, green waste and construction runoff. The contest was open to Jefferson Parish students third through sixth graders submitted posters, while seventh and eighth graders submitted essays, to depict or describe at least one source of nonpoint source pollution and potential solutions. New this year, the awards program included teachers who participated in the High School Sewer Science Project. This project is a week-long experiment designed to showcase the process of how the parish cleans and treats sewerage water. The program uses a scientific approach in an effort to increase awareness about water pollution and its impact on the environment.

Louisiana Master Farmer Program 2022

The Louisiana Master Farmer Program, a Louisiana State University AgCenter led initiative that teaches about conservation, resource management, and publishes BMPs on coastal nonpoint pollution. The program graduated its 2021 class in April 2022. Eight Master Farmers were recertified during the meeting of the Louisiana Association of Conservation Districts. The recipients join the 353 that have been certified or recertified since 2006, and the program plans to continue its goal to lessen the environmental footprint left by agricultural operations, and ensure opportunities for future generations.

To become a Master Farmer, participants must attend educational sessions about environmental stewardship and develop plans for implementing conservation practices on their farms. To maintain the Master Farmer designation, they must meet continuing education requirements and periodically be recertified.

Louisiana Outstanding Master Farmer Dwayne Compton is a rice and crawfish producer in Jefferson Davis Parish and has been an active member in his community for more than 30 years; advocating for improving water quality, soil sampling and nutrient management.

Outreach and Education

OCM representatives regularly participate in the many educational outreach events throughout the year; staff participated in the Ascension Parish career fair for eighth through twelfth grade students, and Louisiana Department of Wildlife and Fisheries (LDWF) Hunting and Fishing Day. Both events OCM staff demonstrate and discuss the importance of coastal wetlands and their benefits to communities.

BTNEP

The OCM sits on the management conference for the BTNEP. The BTNEP became recognized in 1990 as one of 28 National Estuary Programs through the United States, and it works to protect and preserve the culture and land located between the Mississippi and Atchafalaya Rivers in Southeast Louisiana. The management conference originally convened in 1990 to develop the Comprehensive Conservation and Management Plan (CCMP), and it evolved to become an arena for producing open and frank discussions about some of the most critical coastal management issues. During this review cycle, BTNEP has been awarded \$4.5 million from the bipartisan infrastructure law to spend on projects addressing habitat protection, restoration, climate change mitigation, and/or environmental justice issues. T. Bradley Keith, director of the program says, "What is most important is that we want to use this funding to help communities and efforts that will be meaningful and impactful."

Litter Abatement and Beautification Task Force Kicks Off

The state established a Task Force on Statewide Litter Abatement and Beautification, administered by the Lieutenant Governor's Office and Keep Louisiana Beautiful. The group is made up of 26 Task Force members, representatives from various state and local government agencies, businesses, private groups, and communities that dedicated over 400 hours to developing eight recommendations for tackling litter in Louisiana:

1. Establish Fundamentals to Sustain Litter Prevention and Beautification Efforts
2. Raise Public Awareness

3. Build Knowledge through Training and Education
4. Advance Youth Education to Create a Culture of Cleanliness
5. Strengthen Litter and Illegal Dumping Enforcement Efforts
6. Improve Waste Disposal Practices and Recycling Opportunities
7. Expand Litter Prevention and Removal Initiatives
8. Support Beautification and Community Appearance Enhancement

Along with these recommendations, 47 key priorities were proposed and adopted, one of which is to conduct a comprehensive litter study to measure quantitative and qualitative data such as litter locations, quantities, and sources; public perceptions and attitudes; and the present costs associated with litter abatement.

Geauxing Green for the 2022 French Quarter Festival

French Quarter Festivals, Inc. (FQFI) announced that organizers were able to increase overall waste diversion by more than 25 percent in comparison to the 2019 Festival with the addition of composting, glass recycling, donations and upcycling. In 2022, recycling efforts amounted to 30,000 pounds of recycled waste, a 119 percent increase from 2019 with 13,500 pounds.

The Geauxing Green Initiative worked with 200 “Green Team” volunteers and crew, as well as several local companies to execute its mission. During the Fest, 130 reusable waste bins were placed throughout major festival sites. In addition to educating the general public on how to properly dispose of their waste, the event's 55 food vendors were required to utilize only compostable serving materials and no styrofoam was allowed on site. Organizers diverted thirty-six thousand pounds or 18 tons, which is approximately the weight of three adult elephants, to The Composting Network to make garden soil. Twenty-nine thousand and five-hundred pounds, or 15 tons which is equivalent to the weight of 3,000 gallons of paint, worth of plastic, aluminum, and paper were diverted from landfills and recycled with the help of Waste Connections. Nine thousand pounds, nearly 5 tons, of glass was diverted to Glass Half Full for making sandbags for coastal storm defense. 1,000 pounds of French Quarter Festival signage will be repurposed for Mardi Gras floats, student projects and re-used for the 2023 festival April 13-16. FQFI looks forward to increasing diversion percentages for their 2022 and 2023 events. The discovery from the events will aid BTNEP in developing a “Sustainable Festival Planning Guide” for the Environmental Protection Agency’s Gulf of Mexico Division, which will offer guidelines and instructions to other communities from pre-event actions to post-event actions.

Pollution Reduction in Rivers and Streams

Livingston and East Baton Rouge parishes will be sharing the cost of cleaning debris from the Amite River, additionally East Baton Rouge and the city of Central are partnering on the Comite River; these cooperative agreements are cost shared with FEMA, and will help to reduce flooding impacts, and facilitate moving water downstream.

6.2 DRINKING WATER PROTECTION PROGRAM

Background

Congress mandated each state implement a Wellhead Protection Program (WHPP) that protects public water wells and a Source Water Assessment Program (SWAP) to assess potential susceptibility to contamination of all water sources utilized for drinking water supplies. The DWPP, which is what LDEQ calls its SWP program, combines the efforts of the WHPP and SWAP to prioritize protection activities. In accordance with Federal Register; Volume 68:205, LDEQ has included source water protection as part of its NPS program. The source water protection staff assists Louisiana’s communities in protecting aquifers and surface waters (rivers, lakes, etc.) that are sources of drinking water.

The DWPP uses the State fiscal year (July 1 through June 30) for its calendar of assessment and protection activities and in all previous state fiscal years the DWPP targeted protection activities by the state’s parish jurisdictional boundaries. However, in July 2020, the DWPP began prioritizing target areas by watershed drainage basins. Federal fiscal year 2020 was a transition period that included protection activities in both the targeted parishes and from targeted watershed drainage basins. Protection activities implemented in targeted watersheds are comparable to parish-based activities and are outlined under Program Element 2 of Louisiana’s FFY 2022 319 CWA Nonpoint Source Work Plan.

Drinking Water Protection Activities

Target areas for this reporting period were the Lake Pontchartrain Basin, the Mississippi River Basin and the Pearl River Basin. Protection activities include, but are not limited to, updating source water assessment information, contingency planning, introduction of a model ordinance, public education and addressing specific issues. These activities may also occur outside of targeted basins shown in Figure 3, if an opportunity to do so presents itself, or if the need arises.

Target Watersheds

All SWP information for public water supplies in the targeted watersheds will be updated according to the schedule in Table 18. The table also shows the number of wells and intakes scheduled for source water assessments. Source water assessment information is confirmed with the public water systems and, if required, updated contingency plans are prepared for each water system serving a population of 3,300 or fewer. Water systems serving populations exceeding 3,300 are required to develop or update risk assessments and emergency response plans under the American Water Infrastructure Act of 2018 and must certify completion to EPA. DEQ coordinates with the Louisiana Rural Water Association to provide assistance with these assessments and plans. The actual numbers for the source water assessment work accomplished within the watersheds for this reporting period are included under the Source Water Assessments section below. Six contingency plans were updated during this reporting period. As this work continues, if a specific issue involving public water sources needs to be addressed or if any public education opportunities arise, the DWPP staff will respond as needed.

Louisiana Source Water Protection Area Watershed Basin Plan				
Fiscal	Basin	Number Of: Wells Intakes		Drinking Water Bodies
Years Wells Intakes 2021 - 2025	Pontchartrain	623	0	N/A
	Pearl	101	0	N/A
	Mississippi	92	0	N/A
	3	816	0	N/A
	Vermilion-Teche	555	3	Bayou Teche & Grand Lake
TOTAL	4	1,371	3	

Table 18. Louisiana Source Water Protection Area Watershed Basin Plan

Source Water Protection Program Schedule



Figure 3. Source Water Protection Program Schedule

Source Water Assessments

During implementation of the DWPP source water assessment data are updated. The staff obtains Global Positioning System (GPS) coordinates for new water wells and intakes and well photographs are taken for ease of identification. A protection area is delineated for the well or intake and GPS coordinates are obtained for all significant potential source of contamination (SPSOCs) identified within the protection area. Additionally, protection areas for wells and intakes already in the SWAP database are resurveyed to update SPSOC information and new photographs of wells are taken. Wells or intakes that are no longer in service are removed from the inventory along with their corresponding protection areas and SPSOCs. Applications developed to capture the data via mobile devices are used to update the database in real time.

During this reporting period, source water assessment data were collected for 184 public water sources and 747 SPSOCs. Updating this data is important because LDEQ and other agencies use it for pollution prevention, emergency response, and environmental investigations. The data are also used to generate source water assessment reports for public water supply systems. The Safe Drinking Water Act Consumer Confidence Report rule requires that all public water supply systems have a copy of their source water assessment report available for review by the public.

The SWAP Calculator program generates new source water assessment reports based on existing data and new data collected with mobile data collection applications. The reports contain basic well/intake information such as age, depth, aquifer/water body, delineated protection areas, SPSOCs, and a risk ranking for the water system.

Recent database and software upgrades impacted the functionality of the SWAP Calculator and during FFY2020 the program was completely redeveloped. The new SWAP Calculator program not only generates SWAP reports but also significantly improves the functionality of the program by automating data collection and report generation processes. During this reporting period 138 source water assessment reports were generated.

Public Education

Public education is one of the main elements of the DWPP and there were various opportunities to inform citizens about drinking water source protection in both targeted and non-targeted areas. DWPP staff gave presentations or worked booths at the following locations/events LSU Geoscience Seminar, DEQ Geologists Training, and West Feliciana Middle School.

Bayou Lafourche

Work to mitigate improperly treated sewage flowing into Bayou Lafourche from individual sewage treatment systems continued during this reporting period. DEQ coordinated with LSU Ag Center to develop and administer a survey to determine the willingness to pay for installation of a community sewage treatment system for Nolan Touns Subdivision near Lockport, LA. A survey went out in the mail and on social media. Two classes on home sewage treatment system maintenance were conducted locally on April 27, 2023 where attendees had the opportunity to express their opinions on how to best handle the sewage problem in their neighborhood. The overall response to these efforts weren't as fruitful as hoped but still provided for a useful litmus test on how to handle the sewage issue in other areas along Bayou Lafourche.

Hurricane Assessments

DWPP staff routinely participates in LDEQ's environmental damage assessment response to catastrophic storms in areas impacted by storm surge, specifically in source water protection areas. These assessments are provided to DEQ's Incident Command so that the proper personnel are able to respond to any required follow up work. In addition to environmental damage assessments, the DWPP staff also assesses surface water quality in sources of drinking water impacted by hurricanes. The DWPP staff was chosen for this task because it is the only unit in the state that is tasked with water quality protection of sources of potable water, i.e. the aquifers and surface water sources. During this reporting period, no hurricane assessments were required.

6.3 STATEWIDE ONSITE DISPOSAL SYSTEM PROGRAM

Many of Louisiana’s watershed impairments are caused by high concentrations of FC. The state’s numerical criteria for FC for designated uses can be found in Table 19.

Designated Use	Louisiana numerical criteria
Primary Contact Recreation	FC: 400 CFUs/100 mL (May – Oct)
Secondary Contact Recreation	FC: 2,000 CFUs/100 mL
Public Water Supply	FC: 2,000 CFUs/100 mL
Oyster Propagation	FC: 14 CFUs/100 mL

Table 19. The State’s numerical criteria for FC for designated uses

LDEQ, WSCs, and watershed support groups continued to partner with LDH and the parish and/or local governments in developing education and outreach programs and assist in inspecting OSDSs located in priority watersheds. Table (20) depicts the watersheds and partners involved in OSDS inspection projects.

Watershed	Project Summary
Comite River (040103)	In FFY2023, Capital RC&D conducted individual home sewage inspections. Monitoring was conducted by LDEQ Water Surveys personnel. Monitoring and inspections will continue into 2024.
Yellow Water River (040504)	In FFY2023, Capital RC&D conducted monitoring and individual home sewage inspections. Monitoring and inspections will continue into 2024.
Middle Amite River (040302)	In FFY2023, Capital RC&D conducted monitoring and individual home sewage inspections. Monitoring and inspections will continue into 2024.
Natalbany River (040503)	In FFY2023, Capital RC&D conducted individual home sewage inspections. Monitoring was conducted by LDEQ Water Surveys personnel. Monitoring and inspections will continue into 2024.
Thompson Creek (070502)	In FFY2023, Capital RC&D conducted monitoring and individual home sewage inspections. Monitoring and inspections will continue into 2024.
Vermilion River (060801)	In FFY 2023, BVD and LDAF continued education and outreach and home sewage inspections. LDEQ Water Surveys continues conducting monitoring.
Bayou Folsé (120302)	In 2023, BTNEP continued water quality monitoring and education-outreach. Through local partnership, in August 2020 BTNEP began inspecting home sewage treatment systems to assure proper functioning. This effort will continue into 2024.
6217 Coastal Management Area in Coastal Louisiana	In FFY2023, LDEQ-NPS continued its partnership with LRWA and conducted OSDS inspections; and utilized focused/project-targeted workshops on an as-needed basis. This effort will continue into 2024.

Table 20. OSDS Inspection Activity

Evaluation of continuing inspections in the watersheds will be made based on water quality data obtained from the ambient water quality network sites in each subsegment. Criteria for the designated uses will be used to determine whether NPS bacteria are being reduced and progress is being made towards meeting water quality standards in each subsegment.

7.0 OUTREACH AND EDUCATION ACTIVITIES

LDEQ, partners, and WSCs, all worked together to conduct education and outreach across the state. Each department realizes the importance of sharing our findings and continued education of the public to promote watershed restoration. LDEQ participated in 13 outreach and educational events across the state this fiscal year. These events targeted people of all ages. The Enviroscape model/video allows viewers to see how water moves through an array of landscapes, from urban to agricultural, illustrating the interconnectedness of our waterways and the transportation of NPS pollution. In FFY 2023, LDEQ reached over 10,000 adults and students through the following events:

October 7, 2022 – Water Palooza

The NPS Group participated at the 2022 Water Palooza at The Good Shepherd School in New Orleans, Louisiana. Water Palooza is part of the Water Environment Federation’s annual conference event, WEFTEC, at the New Orleans Morial Convention Center. Approximately 250 kids attended the event and learned about NPS. More than 20,000 water professionals from around the world come to New Orleans every other year for WEFTEC. The goal of the Water Palooza educational event is to engage and educate students on the value of water and the water environment through interactive booth activities.

March 4, 2023 – Saints Pelicans

LDEQ participated in the Saints/Pelicans STEM fest this past weekend in Metairie. LDEQ staff brought the Enviroscape model to show causes and sources of nonpoint source pollution and how NPS pollution is reduced. The New Orleans Saints, New Orleans Pelicans, and Chevron hosted the STEM Fest 2023 where approximately 3,500 students participated in various Science, Technology, Engineering, and Math activities.



Figure 4. LDEQ Scientist India Ambeau discusses NPS pollution at Water Palooza



Figure 5. LDEQ Scientist India Ambeau discusses NPS pollution at the Saints/Pelicans Stem Fest

March 16, 2023 – Park Forest Math and Science Night

Park Forest Middle’s annual Family Math and Science Night Thursday March 16, 2023. This event gives students the opportunity to participate in interactive exhibits featuring career and educational opportunities in math and science and community resources that support East Baton Rouge Parish youth and families. LDEQ tested approximately 100 students’ knowledge of environmental concepts and used the Enviroscope model to show students the causes and sources of nonpoint source pollution.

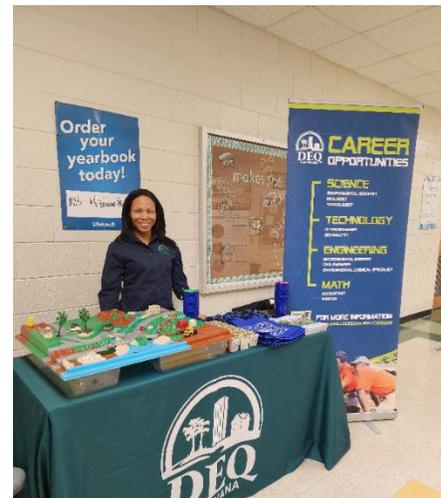


Figure 6. LDEQ Scientist India Ambeau demonstrates the Enviroscope at Park Forest Math and Science Night

April 15, 2023 – FUMC Outreach

LDEQ NPS Unit participated in the First United Methodist Church in Gonzales’ Community Outreach Event. The Enviroscope Model was used to show approximately 20 people the causes and sources of nonpoint source pollution.

April 21, 2023 – Westdale Heights Academic Magnet

The Enviroscope was used to demonstrate NPS pollution to the fifth grade science classes. The 70 students were learning about erosion so the lesson on nonpoint source pollution worked well. The students were very interactive and answered lots of questions!

April 29, 2023 – Tangipahoa Stemfest

The Enviroscope model was used to demonstrate NPS pollution to approximately 250 people at this event.



Figure 7. LDEQ Scientists India Ambeau and Melanie Bauder participating in First United Methodist Church event



Figure 8. LDEQ Scientist India Ambeau demonstrates the Enviroscope to fifth graders at Westdale Heights Magnet School



Figure 9. LDEQ Scientist India Ambeau demonstrates the Enviroscape to second graders at First Baptist Christian School



Figure 10. LDEQ Scientist Melanie Bauder discusses NPS pollution at Explore Nature-Purple Martins event

April 2023 – St. Landry Parish Convocation

The Enviroscape model was used to demonstrate NPS pollution to approximately 2,000 teachers and support staff.

May 12, 2023 – First Baptist Christian School

The Enviroscape model was used to demonstrate NPS pollution to First Baptist Christian School in Lafayette to teach Ms. Ellen DeSpain’s 2nd grade class. Approximately 27 kids learned about erosion and were very engaged.

May 13, 2023 – Explore Nature-Purple Martins

This event was the third Explore Nature event that LDEQ-NPS has participated in. LDEQ staff brought information on how citizens can be good stewards of the environment. This information included flyers on home sewage systems, household hazardous waste, rain gardens, and managing pet waste. Approximately 250 people attended this event.



Figure 11. LDEQ Scientist India Ambeau discusses NPS pollution in Scotlandville

July 15, 2023 – Scotland Saturdays

Scotland Saturdays is a non-profit organization that has been hosting monthly open markets in the Scotlandville Plaza for the last five years, in hopes of reactivating a once thriving portion of our great city, as well as providing an opportunity for our community’s small business owners to engage with the community members and organizations. Over the years, through grants with the Mayor’s office, BREC, Midcity Redevelopment, and others, they have championed campaigns around health, wellness, food disparities, education, and more. They work very hard to cultivate organic opportunities for community development, in the Scotlandville community. Approximately 50 people attended the event.

August 26, 2023 – STEM Fest- SELU

LDEQ-NPS participated in STEM Fest at Southeastern. There were 2,100 participants that signed up and attended the NPS booth. LDEQ staff brought the Enviroscape model to demonstrate NPS pollution.

August 26, 2023 – Girl Scout Stemfest

Approximately 500 people attended this event. The Enviroscape model was used to educate visitors on NPS pollution.



Figure 12. LDEQ Scientist India Ambeau participating in STEM Fest



Figure 13. LDEQ Scientist India Ambeau discusses methods to reduce NPS runoff at the National Hunting and Fishing Day

September 23, 2023 – National Hunting and Fishing Day

National Hunting and Fishing Day was hosted by The Department of Wildlife and Fisheries on September 23, 2023 at Waddill Outdoor Education Center. There were over 1,110 participants. LDEQ staff asked environmental trivia questions focusing on water pollution and how it can be prevented and gave out cool prizes!

8.0 TRAINING

Continued training and education is essential to the success of the NPS program. Staff are encouraged to attend trainings that can add value to the program and increase knowledge of NPS practices and EPA methods. The following describes selected training events attended by NPS staff.

NONPOINT SOURCE POLLUTION TRAINING

Workshops and Conferences

Louisiana Stormwater Summit. Conference with panel discussions on stormwater management strategies applicable to Louisiana. Louisiana Stormwater Coalition. November 10, 2022.

Environment and Health Council of Louisiana Conference. Topics included Louisiana coastal resiliency initiatives. EHCL. November 10, 2022

Louisiana Association of Conservation Districts meeting. LACD annual conference includes educational sessions covering topics such as soil health, conservation, water quality and quantity, BMPs, national policies and initiatives, and the Louisiana Master Farmer program. January 12, 2023

Mississippi River Science Forum. Topics included identifying data gaps, prioritizing steps toward improving water quality, restoring habitat and natural systems, eliminating aquatic invasive species, and others. USGS. February 15, 2023.

Tulane Environmental Law & Policy Summit. Speakers and panelists discussed current environmental law and policy issues. Tulane Environmental & Energy Law Society. March 17, 2023.

Annual Lower Mississippi River Science Symposium. Topics addressed were: optimizing the data collection network, strategizing the next generation of models, and outlining key applications of the data and models for management decisions. Tulane University School of Science & Engineering. April 27-28, 2023.

Hurricane Season Data Mining Workshop. USGS and the University of Louisiana at Lafayette Regional Applications Center host this annual workshop to cover new GIS data resources, tools, and applications relevant to Louisiana. USGS. June 1, 2023.

National Training Workshop on Water Quality Data, Assessment, and Plans. This workshop provided instruction on development of collaboration, coordination, and communication approaches that improve programmatic understanding, processes, and outcomes. Environmental Law Institute and EPA. June 21-23, 2023.

ESRI User Conference. Presentations and technical sessions on geospatial software, applications, data, analysis, and mapping. ESRI. July 7-10, 2023.

Training Series

NSGIC 3DHP / 3DEP Information Forum

- Lessons Learned in Minnesota's Approach to EDH utilizing Culvert Mapping and Breachlines. November 16, 2022;

- FY24 3DHP Partnerships and Enhancing the National Wetlands Inventory through Improved Interoperability with 3DHP. July 19, 2023;
- Towards an Internet of Water: Creating a community search index for water data. August 16, 2023.

National States Geographic Information Council Annual Conference. This conference offered a one-day workshop covering the new USGS hydrography efforts replacing the NHD. Topics included 3DHP: Practical Steps for 3DHP Preparation, 3DHP: State & Federal Perspectives, and state-to-state collaboration. September 25, 2023.

EPA Reproducible Workflows Series

- Processing gridded weather data in ArcGIS and Python. October 18, 2022

American Farmland Trust Outcomes Estimation Tools Training Webinar Series

- Webinar Launch & PCOC. May 3, 2023
- Model My Watershed. June 7, 2023
- Nutrient Tracking Tool (NTT). July 12, 2023

EPA NPS Success Story Training

- NPS Success Story Training demonstrating the new EPA Success Story layout. March 1, 2023
- Success Story Training Part 2. Entering success stories in GRTS. August 23, 2023

EPA Watershed Academy Training: Protection and Planning Series

- Integrating Environmental Justice into Water Resource Management. May 3, 2023
- Addressing Nonpoint Source Pollution through EPA's National Nonpoint Source Program. July 17, 2023.

FEMA Incident Command System Training Series

- ICS300: Intermediate ICS for Expanding Incidents. March 28-29, 2023;
- ICS400: Advanced Incident Command System. May 2-3, 2023

Eurofins PFAS Training Series

- PFAS Basics, Part 1. February 14, 2023
- PFAS Sample Collection, State of the Science. February 21, 2023
- Navigating Analytical Method Options. March 7, 2023
- PFAS: Forensic Tools, TOF, TOP Assay and Non-Target Analysis. March 14, 2023

Individual Training Sessions

Advancing Watershed Protection through Land Conservation. EPA technical exchange webcast. November 10, 2022

Source Water Protection: Resources, Planning, and Projects. This webcast featured a discussion on how source water protection in nonpoint source management can affect both water quality and public health. EPA NPS technical exchange webcast. January 31, 2023.

Water Quality and Wetland Mapping. This webinar covered using satellite-derived water quality data and high-resolution imagery to map water quality and identify lakes prone to cyanobacteria blooms and mapping/monitoring Great Lakes coastal wetlands. University of Wisconsin, Madison. February 8, 2023

Watershed Delineation in ArcGIS and Python. EPA Water Quality Modeling Group. February 21, 2023.

NPS Equity Quarterly Report Out. EPA webinar. February 28, 2023.

Pollutant Load Estimation Tool (PLET) Basic Training. Demonstration of new PLET tool embedded in GRTS, including inputs, outputs, BMP calculator, urban BMP calculator, load estimates, model sharing, and future work. EPA. March 2, 2023

EPA Nonpoint Source Pollution Technical Exchange Webinar: Stormwater Management Research Updates. March 22, 2023.

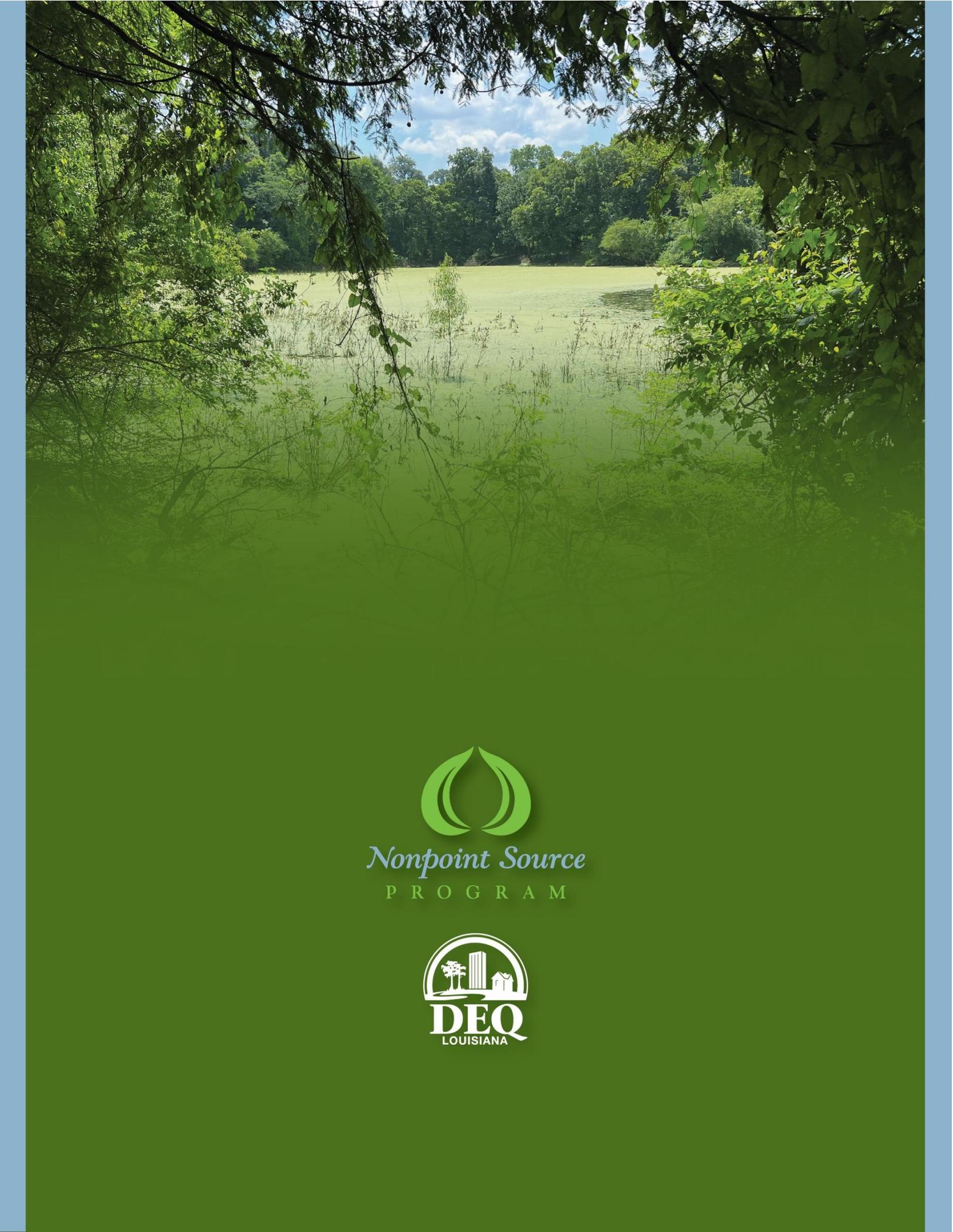
Draft National Strategy to Prevent Plastic Pollution. Presentation on overview of strategy and key questions for states/commenters to consider. EPA. May 11, 2023.

Introduction to PFAS Analytic Tools. EPA. June 1, 2023.

ATTAINS 101. This EPA webinar provided an overview of ATTAINS, including accessing the database, roles, the user interface, data, reports, and the "How's My Waterway" application. EPA. June 6, 2023.

Microplastics: The Current State of the Regulations and Science Webinar. This webinar shared information gained from California and US EPA to help with lab preparation for microplastic testing. The Laboratory Informatics Medical & Scientific Community Forum. June 8, 2023.

Tracing Applications in Arc Hydro. ESRI webinar. August 23, 2023.



Nonpoint Source
PROGRAM

