

# Mississippi's Nonpoint Source Management Program



## 2023 Annual Report



MISSISSIPPI DEPARTMENT OF  
ENVIRONMENTAL QUALITY

**Prepared Pursuant to Section 319 of the Clean Water Act  
Mississippi Department of Environmental Quality  
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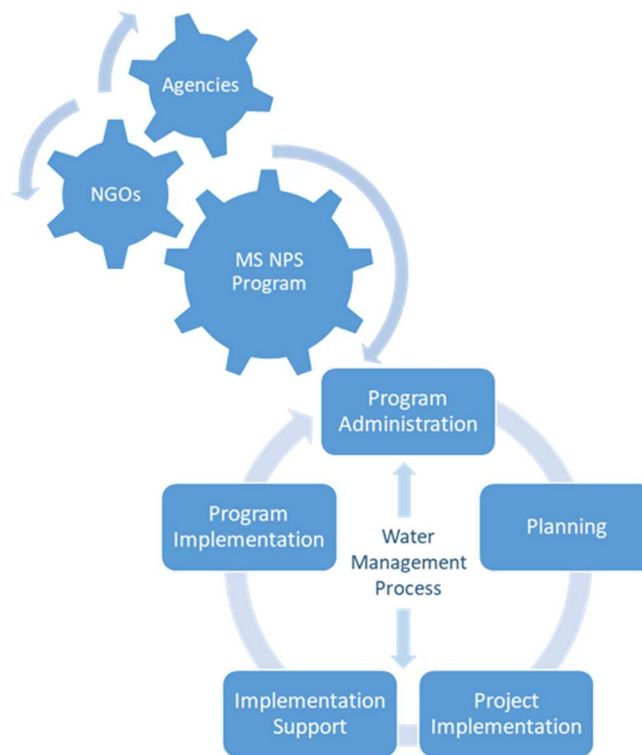
# Introduction

The state’s Nonpoint Source (NPS) Pollution Control Program is implemented under the guidance of the Mississippi Department of Environmental Quality’s Mission Statement “*to safeguard the health, safety and welfare of present and future generations of Mississippians by conserving and improving our environment and fostering wise economic growth through focused research and responsible regulation.*”

Information contained herein represents work undertaken in Mississippi’s statewide Nonpoint Source Management Program for fiscal year 2023. Section 319(h) NPS Grant funding and is structured to support the implementation of both the long-term (20-yr) and short term (5-yr) goals identified in the EPA approved update to the state’s NPS Management Program Plan. The plan fulfills the requirements of both Section 319(h) of the Clean Water Act Amendments of 1987, and Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA). It comprehensively describes a framework for agency coordination and cooperation and serves to implement a strategy for employing effective management measures and programs to control NPS pollution statewide.

The state’s strategy for the management and abatement of NPS pollution relies on statewide and targeted watershed approaches. These approaches are implemented through both regulatory and non-regulatory programs on the federal, state, and local levels. The implementation of program activities or categories that are not regulated rely primarily on the voluntary cooperation of stakeholders and are supported financially through federal assistance programs such as Section 319(h) and available state resources.

The approach for addressing NPS pollution on a statewide level includes education and outreach, monitoring and assessment, planning activities, consensus building, and partnering. At the watershed level, implementing the Mississippi NPS Program includes the development of watershed-based plans, implementation of practices to control NPS pollution, inspection of NPS pollution control practices, monitoring to detect changes in water quality, as well as local consensus building, partnering, and education and outreach efforts.



To improve transparency and consistency with both reporting and management of funds under the \$319 grant, all grant funded activities are grouped into five core functions or elements. This allows for more seamless, consistent reporting of both program level and project level activities as well as submittal of required financial reports. As such, all grant activities are organized under one of the following 5 functional elements of the Mississippi NPS Management Program: Program Administration, Program Implementation, Planning, Project Implementation, and Project Implementation Support. The sections below describe the work activities and/or projects funded in each of these core elements of the program.

This annual report for fiscal year 2023 includes updates to active restoration and protection projects. This report is divided into two major sections: *Program Fund Allocation and Watershed Project Fund Allocation*. The Program Fund Allocations represents NPS funding used to implement program support activities such as program administration, statewide collaborative strategies, education and outreach programs, statewide monitoring and assessments, and watershed planning activities. The Watershed Project section of this report provides information on actions accomplished during FY 2023 completed to implement watershed restoration and protection plans. These plans focus on implementing technical best management practices to reduce pollutants entering watersheds and engaging key targeted audiences to reduce nonpoint source pollutants from developed areas. These watersheds were prioritized for implementation because they have impaired waters with completed total maximum daily loads (TMDLs) for identified pollutant(s); existing water quality monitoring data and collection sites; have been identified as having critical sediment and nutrient issues in the watershed(s); and the local stakeholders and partners have expressed a desire to participate in area wide best management practice implementation to address the watershed issues of concern.

# NPS Program Fund Allocations

## Element 1: Program Administration

The Mississippi Department of Environmental Quality (MDEQ), Office of Pollution Control (OPC) serves as the lead agency in Mississippi for water quality management. Therefore, OPC is responsible for the development and implementation of the State's NPS Management Program. To do this, OPC performs several key administrative functions to ensure statewide implementation of NPS initiatives. These functions include:

**Program Oversight:** Day-to-day administration of the Mississippi NPS Program is primarily the responsibility of the Chief of the MDEQ Basin Management and NPS Branch. However, MDEQ personnel outside of the Basin Management and NPS Branch also contribute to the administration of the Mississippi NPS Program. The Basin Management and NPS Branch is part of the Surface Water Division within the MDEQ Office of Pollution Control. This organizational structure also keeps the program included as an integral part of MDEQ's Clean Water Act (CWA) water management programs and allows for communication and integration of Mississippi's NPS Program goals with other CWA programs managed within Office of Pollution Control and other programs at MDEQ. The Surface Water Division Chief facilitates and ensures this communication among programs and provides oversight of the Mississippi NPS Program.

**Budget and Grant Administration:** This is a critical component as tracking expenditures is vital to program oversight. Many grant implementation activities are handled through sub-grants with other agencies. Management of the Mississippi NPS Program budget is an important part of administering the program. Federal grant money provided to MDEQ under §319 makes up part of the Mississippi NPS Program budget. The federal government requires that the use of §319 grant money, and match, be tracked and reported to ensure it is being used appropriately. Reporting on use of §319 grant money, and other grant management activities, are part of managing the Mississippi NPS Program budget. Management of Mississippi NPS Program grants includes interaction between MDEQ and EPA in the form of:

- Overseeing grant preparation,
- Negotiating grant agreements,
- Receiving grant awards,
- Reporting on expenditures and deliverables, and
- Developing grant close-out reports.

The MDEQ Office of Administrative Services has staff that that specialize in grant applications, federal financial reporting, and in performing financial risk assessments for sub-grantees. These staff work with Basin Management and NPS Branch staff to ensure the financial reporting requirements for the Mississippi Section 319 grants are met.

**Program Reporting:** Each year the Basin Management and NPS Branch prepares a report describing the activities completed by Mississippi NPS Program during the last year. This annual report is also a federal requirement for NPS Programs. The annual report is submitted to EPA in December and made available to the public on the MDEQ website. This annual report includes:

- A summary of activities over the past year in each of the Mississippi NPS Program elements,
- Explanation of how the activities over the past year contribute to achievement of NPS Program goals, and
- A summary of the progress in achieving Mississippi NPS Program milestones.

### **Management Plan Goals, Objectives, and Milestones**

Work completed under the Program Administration element of Mississippi's Nonpoint Source Management Program during fiscal year 2023 are designed to support both the long-term and short-term goals identified in Mississippi's approved 5-yr Nonpoint Source Pollution Management Program plan. Appendix A provides an update to the milestones and objectives for these goals accomplished during FY 2023.

### **Statewide NPS Program Implementation**

As with most water management programs, the Mississippi NPS Management Program must function in both the technical environment of water quality management while also working to communicate goals and project outcomes with partners in both technical and non-technical fields. While technical information is important to the Mississippi NPS Program, understanding the social nature of differing stakeholder groups, how they best understand information presented to them, and how to encourage people to take an active role in managing NPS pollution in their watersheds is a critical component of program success. Ultimately, NPS pollution occurs as a result of human activities. Therefore, working with people is a critical part of implementing the Mississippi NPS Program. This includes collaboration, program transparency and awareness, education, and outreach.

Program Implementation includes the activities that support the Mississippi NPS Program by implementing projects and activities that focus on work that is broader in scale than a HUC 12 watershed and is where most of the staff time is spent. Work done under this element ensures the NPS Program functions on a day-to-day basis and supports efficient management of grant funds. Actions identified under this element help to implement activities that support program objectives that are broader in scope but are instrumental to mitigating NPS pollution statewide. These activities include developing and managing subgrants; tracking and reporting progress; supporting awareness, outreach, and education; and supporting the development of strategies, tools, and providing for knowledge transfer.

**Developing and Managing Subgrants:** The process of developing and managing subgrants is critical to maintaining an effective NPS management program in Mississippi. Many activities of the Mississippi NPS Program are implemented through sub-grants to other agencies,

organizations, and institutions. When §319 grant funds are used to fund work by other agencies, organizations, and institutions, sub-grants or contracts are set up between MDEQ and the other partnering agencies/organizations. These agreements specify how the funds will be used and how the overall project will ultimately help address NPS pollution efforts in Mississippi. Basin Management and NPS Branch staff work with partners to develop workplans, budgets, and sub-grant agreements. Staff also are responsible for maintaining project budgets, monitoring expenditures, tracking matching funds, approving invoices, performing project audits, and maintain an active communication with project partners to ensure all goals and outcomes are met.

**Tracking and Reporting Progress:** MDEQ is committed to transparency in its programs and building efficient tracking and reporting mechanisms into the NPS Program provides needed transparency to EPA and the public. Tracking and regularly reporting on projects, initiatives, and results, are critical activities of the Mississippi's NPS Program. These actions provide information to stakeholders on the work the program is supporting, meet reporting requirements for EPA, and ensure that all funded activities remain on schedule and within budget. Transparency is integrated into the Mississippi NPS Program in several ways, including making program progress reports and other documents available online, and making Basin Team and Watershed Implementation Team meetings open to the public. Examples of information tracked and reported include:

- Personnel attendance at meetings,
- Nutrient and sediment load reductions resulting from the Mississippi NPS Program,
- Entry of required data elements into EPA's GRTS database,
- Development of watershed-based plans,
- NPS Program success stories,
- Progress made in implementing §319 grant and sub-grant work plans, and
- Tracking and reporting on expenditures of §319 grant and sub-grant funds along with required matching funds or in-kind services.

**Awareness, Education, and Outreach:** The Mississippi NPS Program implements a variety of environmental education activities and programs. MDEQ contributes funding and information to many programs to promote awareness and education of NPS pollution while also investing staff resources to facilitate training whenever possible. It is recognized by the MDEQ that the level of success achieved in developing and implementing an effective NPS Program is greatly influenced by the level of stakeholder involvement both at the watershed and statewide levels. Therefore, great focus is given to activities that promote consensus building and partnering. A primary objective of the Statewide NPS Program is to increase public awareness of nonpoint source pollution and ways to reduce its impacts at the individual, community, and watershed levels. Environmental awareness programs sponsored by MDEQ target a wide range of audiences including formal and informal educators, school aged children, private citizens, urban neighborhood groups, civic organizations, elected officials, landowners, communities, and government resource agencies. Described below are routine programs/activities implemented as part of the statewide NPS focused education and outreach program during FFY 2023:



***Environmental Education and Outreach Mobile Classroom*** – A mobile, interactive classroom activity targeted for kindergarten through 5th grade students providing information about NPS pollution in watersheds and what people can do to improve water quality. The Mobile Classroom has been divided into two 30-minute programs. Classroom A “The River Town Story” for grades kindergarten through second grade and Classroom B “All the Water in the World” for third through fifth grade. The interactive program aligns with the standards adopted by the Mississippi Department of Education and travels to schools, educational and public events statewide. Water Quality Steward Study Guide is a companion unit study to the Mobile Classroom. It includes free downloadable access to more than 100 pages of lessons, activities, labs, vocabulary, games, reviews, quizzes, and answer keys. Under normal circumstances, the Mobile Classroom reaches thousands of people annually. Disease Control (CDC) and Mississippi Dept. of Health social distancing, health, and safety protocols. In 2023, the Mobile Classroom conducted 18 events reaching 3,628 students, teachers, and citizens.

***Adopt-A-Stream (AAS)*** – Workshops and presentations teach participants about watersheds, NPS pollution, land use, watershed delineation, water quality, and water quality indicators. Presentations are held in priority watersheds and various regions of Mississippi to promote NPS education. The Adopt-A-Stream program is implemented through a subgrant with the Mississippi Wildlife Federation (MWF). Eight (8) in-person teacher workshops were conducted and reached 159 adults about water-quality subjects. Envirothon training reached 138 students to provide information on aquatic systems and water quality. Aquatic-ecology programs were conducted for 30 classes reaching 711 students. Four stream clean-up, storm drain marking and recycle events were conducted. Over 57,615 people participated in 29 large-venue events and providing outreach materials via displays at conferences reached over 650 people. At these events citizens were informed about water-quality issues and solutions in their own local watersheds.

***Envirothon*** – The Envirothon High School Competition tests student knowledge about water, soils, forestry, wildlife, and current environmental issues each year. The competition measures success by student oral presentations made to a panel of judges where each team applies their knowledge and field experiences to a real-life environmental problem/situation. Team performance is measured using both written and hands-on field tests in each of the five topic study areas. The Mississippi competition is sponsored by MDEQ’s NPS Program and the Mississippi Association of Conservation Districts and is coordinated by the Mississippi Soil and Water Conservation Commission. The state competition was held April 20, 2023, consisting of 27 teams. There were approximately 200 students, advisors and staff present for the competition. The national competition was held in Oxford, Ohio with the Mississippi team placing 22nd overall.

***Environmental Education Workshops*** – Teacher workshops are a major component of MDEQ’s NPS education program each year. The teacher workshops include interactive classroom activities and field trips with some of the best environmental/natural-resource speakers in Mississippi instructing the classroom teachers and environmental educators. These workshops include sessions on water quality, NPS pollution prevention, green infrastructure, low-impact development, water chemistry, benthic macroinvertebrate community measures, and hands-on, water related activities. Educators can use all of the information provided in these workshops to teach students about natural-resource stewardship. In addition, the NPS program assists with

workshop support for the following curricula: *Project Learning Tree*; *Project WET*; *Project WILD*; *Project Aquatic WILD*; *Project Food, Land and People*; *Private Eye*; and others. During 2023, six (6) teacher workshops were held in Mississippi with 163 educators participating. Educators were provided Continuing Education Units (CEUs) in the amount of 3 to 5 CEUs per workshop.

***Project Learning Tree*** – *Project Learning Tree* (PLT) is a curriculum and education program used internationally that fosters critical thinking, problem solving, and effective decision-making skills that future generations need to sustain Mississippi’s forests and natural resources. Teaching good stewardship of natural resources, PLT makes it easy for educators to get students excited about the world outside of the classroom. As part of participating in workshops, educators receive books full of lesson plans, training on how to use these plans, and support from forestry/natural resources experts in the state. Through utilization of these materials in the classroom, activities create an awareness of environmental impacts from actions that take place on the landscape. This information can lead to habit and behavior changes to improve water quality in Mississippi. The Mississippi Forestry Foundation assists MDEQ’s Nonpoint Source Pollution Education Program to conduct *Project Learning Tree* environmental education workshops, training, and meetings. Project Learning Tree conducted 11 workshops providing PLT education and outreach activities reached 210, informal and preservice educators.

***Aquatic Teacher Workshops and Water Journey Festival***- MDEQ partnered with Mississippi Museum of Natural Science (MMNS) to provide hands on learning experiences to teachers in Mississippi. The purpose of these workshops is to increase educator’s knowledge of aquatic habitats and awareness of the need for conservation. The workshop addressed aquatic habitats and species, water quality, pollution, the water cycle, watersheds, aquatic food chain and water management. MMNS has conducted eight aquatic workshops with eighty-five attendees with more workshops planned for the winter of 2024. The Incredible Water Journey festival had over 250 visitors.

***WaterFest*** – This MDEQ event was held the first weekend in April 2023, in Pass Christian, MS, in conjunction with ***Celebrate the Gulf***, and ***Art in the Pass***. *Waterfest* provides an opportunity for outdoor hands-on learning on topics such as the importance of clean water, wildlife, and land conservation to educate the public about various environmental issues that may potentially impact our state. Staff from MDEQ work with staff from the Mississippi Department of Marine Resources, and other volunteers, to demonstrate watershed models, groundwater models, and information on recycling and air quality. The event also provides information to the public about protecting the state’s environmental resources and what they can do to help protect and restore the environment. In 2023, the event had an attendance of 8,124, with 38 Exhibitors, and 94 Volunteers.

***Mississippi Statewide Forestry Water Quality Protection Program*** – The Mississippi Forestry Commission (MFC) evaluates the implementation and use of voluntary Best Management Practices for forestry activities throughout the state of Mississippi. By monitoring these voluntary practices on a continuous cycle and widely distributing the results, best management practice implementation rates will increase. The MFC works with other forestry related groups in promoting water quality within the State and implements monitoring of Best Management

Practices, conducts educational workshops, and distributes outreach materials. The BMP implementation survey sites are selected, evaluated, and the survey is completed on a three-year repeating cycle. The most recent BMP Implementation survey results can be found here: [Mississippi Forestry Commission BMP Implementation Survey](#). In addition, the MFC printed and published the results of the BMP implementation survey. As part of this collaborative effort, the MFC currently has representation and serves on a number of committees related to water quality. An example is the State Implementation Committee where MFC works with MDEQ to investigate any water quality complaints that result from forestry activities.

***Waste Pesticide Disposal Program*** – The Mississippi Legislature passed a law in 1993 directing that pesticide registration fees, or a portion of the fees, be used to fund the waste-pesticide disposal program. This law went into effect on July 1, 1993, and was repealed on July 1, 1998 (Miss. Code Ann. § 69-23-301). During the time this law was enacted, MSU’s Extension Service worked in conjunction with the Mississippi Department of Agriculture and Commerce (MDAC) Bureau of Plant Industry to run the program and conduct numerous pesticide disposal events. After the law was repealed in 1998, there was no waste pesticide disposal program until MDEQ allocated funding through the Nonpoint Source (NPS) Program under §319 of the Clean Water Act. The program began again in 2000 and is implemented by the MSU Department of Agricultural and Biological Engineering and the MSU Extension Service. Each event is publicized in the surrounding counties and thus usually attracts farmers from nearby areas. Chemicals are weighed on-site on collection day, and the contractor bases their disposal costs on a “per pound basis”, in addition to a “base-setup fee.” The primary goal of this project is to help Mississippi farmers and property owners minimize the environmental risks associated with the disposal of waste-pesticide products by disposing of products in a safe and efficient manner. Events will be held as long as funding is available for the disposal of products. Events will be targeted in areas of high agricultural productivity throughout the Mississippi Delta region and in priority watersheds. Two waste pesticide recycling events were held in 2023. The first event was held on November 28, 2023, in Leland, MS. The second event was held on December 6, 2023, in Lyon, MS. This project is ongoing, and it is on schedule and within budget. The final numbers for the collection and disposal of waste/unused agricultural chemicals will be provided in the project’s final report, which will be available in GRTS after the conclusion of the project.

## **Strategies, Tools, and Knowledge Transfer**

As the landscape continually changes and evolves, so does our knowledge of how activities on the landscape affect water management. This constant state of change requires management programs to continually update their strategies for managing NPS impacts. Strategies can be developed to address types of pollutants like nutrients, or they can be broader in scope to address entire categories of NPS pollution like stormwater management in urban settings. By continuing to produce and update management strategies, it helps the NPS Management Program address water resource concerns in a consistent, transparent way while also allowing for results to be communicated back to stakeholders. The ability to develop strategies to address either the continuing impact of NPS pollution or emerging sources helps the program adapt to a constantly changing and evolving future landscape. Funding from this grant was used, as needed to continue the support and update of Mississippi’s nutrient reduction strategies as well as the

continued development and enhancement of the decision support tools that provide a foundation for the program.

***Nutrient Reduction Strategies*** - In recent years, §319 NPS funding has been used increasingly to support nutrient reductions in large watersheds. The strategy behind this approach is to use the committed §319 resources to attract additional leveraging opportunities. Combining these funds together creates a greater potential to achieve quantifiable reductions in nutrient concentrations/loadings. The Mississippi NPS Program incorporates the [Mississippi Coastal Nutrient Reduction Strategy](#), [Mississippi Delta Nutrient Reduction Strategy](#), the [Mississippi Uplands Nutrient Reduction Strategy](#), and the statewide strategy [Mississippi's Strategies to Reduce Nutrients and Associated Pollutants](#), in the development and implementation of NPS projects. The integration of these three regional strategies into the combined statewide strategy permits consistent, compatible, and coordinated watershed management plans to be developed and implemented statewide while addressing the distinct regional differences that exist for nutrient sources across the state. In implementing these strategies, Mississippi continues to work in conjunction with the Mississippi River Gulf of Mexico Watershed Nutrient Task Force to achieve nutrient reductions and work collaboratively to reduce the size of the hypoxic zone in gulf waters. During 2023, MDEQ partnered with the USGS to evaluate existing nutrient data collected at established ambient monitoring locations across the state. Through these analyses, USGS used models to determine concentrations, yields, and loads for total phosphorus (TP) and total nitrogen (TN). As part of the work, USGS also correlated the available data with stream flow information. This resulted in the ability to evaluate the data in terms of flow conditions thereby establishing flow-weighted concentrations, loads, and yields. As a result of this work, Mississippi now has established trends for TP and TN for all ambient sites over the last 10+ years. Using this information, the state can now determine areas where nutrient trends are increasing or decreasing. The trends information can also be used to determine effectiveness of conservation practice implementation, measure the effectiveness of the NPS program to affect water quality, and inform where projects are needed to reduce NPS sources of nutrients. The Scientific Research Report (SIR) developed by USGS providing the results of the analysis can be found here: [Status and Trends of Total Nitrogen and Total Phosphorus Concentrations, Loads, and Yields in Streams of Mississippi, Water Years 2008-18](#).

***Decision Management Tools*** - The key to good management decisions is having a solid foundation upon which to make those decisions. Across the landscape of MDEQ, decision support tools are used to steer programs and make key water management decisions. These tools can take the form of water quality models, decision trees, biological indices, and assessment analysis support tools just to name a few. Within the Mississippi NPS Management Program, there are a couple of key decision support tools that are used to guide program decisions and prioritize watersheds for implementation projects. Not only does the program use these tools in-house to help inform where §319 funds are directed, these tools have also been used by our partners to help inform management decisions for their respective organizations. During 2023, the program, in collaborations with basin team members, used outputs derived from the Mississippi Watershed Characterization and Ranking Tool (MWCRT) to rank the identified priority watershed and evaluated the information provide to prioritize those watersheds for potential watershed plan development and implementation projects. These same collaborators utilized Basin Management Planning Application to view the locations of ranked watersheds;

evaluate information on impaired waters, TMDLs, and monitoring information in those watersheds; and used that information to select the highest priority watersheds in each basin. As a final output from these efforts, the results from the prioritized rankings were used to select those watersheds that were targeted for implementation and included in the FY23 NPS Grant Workplan for Mississippi.

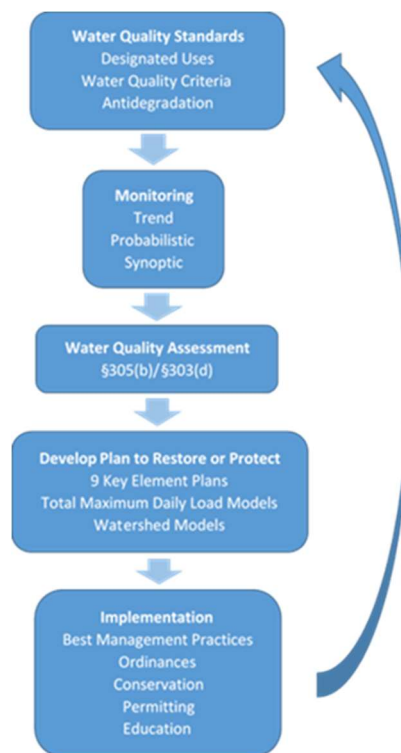
During FY 2023, MDEQ continued working with the USGS to develop a state calibrated SPARROW model. This model combines the existing available regional models (Midwest and Southeast) to provide a single statewide model and data visualization platform. Over the past year, USGS has worked to expand the Mississippi SPARROW model with more data collected statewide and update the model outputs using those data. The final updated model and visualization platform will be available in 2024.

### **Management Plan Goals, Objectives, and Milestones**

Work completed under the Program Implementation element of Mississippi’s Nonpoint Source Management Program during fiscal year 2023 are designed to support both the long-term and short-term goals identified in Mississippi’s approved 5-yr Nonpoint Source Pollution Management Program plan. Appendix A provides an update to the milestones and objectives for these goals accomplished during FY 2023.

### **Element 3: Planning**

The Planning element of the Mississippi NPS Program is the work area under which collaborative decisions are made about where in the state to focus NPS pollution management efforts, what those efforts will be, identify opportunities to leverage resources (either technical or financial), and, ultimately, prepare watershed plans for those priority watersheds where management efforts will be implemented. In order to make sound, scientific decisions, the Mississippi NPS Program uses products or outcomes from the state’s overall water management process. This process is designed to be iterative and adaptive. Programs within MDEQ along with resource agency partners, both federal and state, non-profits, institutions, and local stakeholders work collectively to ensure Mississippi has healthy, productive waters now and into the future. The water management process crosses multiple program areas and includes water quality criteria development and refinement; monitoring; assessment; planning for protections and/or restoration; and implementation. Much of the work done in support of the water management process fits under planning activities supported by the NPS Program.



*Water Management Process*

MDEQ’s Basin Management Approach supports planning efforts for the NPS program. As part of planning efforts, staff conduct basin team meetings to target watersheds for implementation plan development. To develop fully approvable 9 Key Element watershed-based plans, the pollutant, or primary cause of impairment, needs to be identified. Sampling of biological community data and stressor identification play important roles in this process and provide the information necessary to develop TMDLs and to fully answer the questions in 9 Key Elements.

**Water Quality Monitoring** - There is a saying, “measure what matters.” Since improving and/or protecting water quality is the focus of the Mississippi NPS Program, water quality monitoring is a necessary part of the program. The Mississippi NPS Program supports the water quality monitoring programs of MDEQ and its partners. Water quality monitoring supported by the Mississippi NPS Program includes collecting measurements of physical and chemical characteristics of water samples, conducting surveys of aquatic communities, and collecting information about water resources.

MDEQ provides monitoring support to NPS projects through funding under this element. Project data is sent to STORET as part of MDEQ’s CWA Section 106 data flow. The projects and their corresponding streams and (environmental Surface water Portal for Information Repository and Exchange) enSPIRE IDs are as follows:

<b>Project</b>	<b>Stream Names</b>	<b>enSPIRE ID</b>
Lake Washington (GY07)	Unnamed Creek	111B53
	Lake Washington	YZ322
Ross Barnett Reservoir (GY08, GY10, GY11, GY15, GY19)	Ross Barnett Reservoir	549RBR01
	Ross Barnett Reservoir	549RBR02
	Ross Barnett Reservoir	549RBR03
	Ross Barnett Reservoir	549RBR04
Porter Bayou (GY09, GY14, GY17)	Porter Bayou	111A24
	Porter Bayou	111B40
	Porter Bayou	111D21
	Porter Bayou	111F01
	Porter Bayou	113A37
	Porter Bayou	113A38
	Porter Bayou	113A39
	Porter Bayou	113A40
	Porter Bayou	113A41
	Porter Bayou	113A42
	Porter Bayou	113A43
	Porter Bayou	113A44
Harris Bayou (GY09, GY14, GY17)	Richies Bayou	111A14
	Harris Bayou	111B37
	Overcup Slough	111D07
	Overcup Slough	111D08
	Overcup Slough	111D09
Bee Lake (GY10)	Overcup Slough	113A30
	Bee Lake	111D04

Rotten Bayou (GY10, GY11)	Rotten Bayou Bayou La Terre Eutaeutachee Creek Hickory Creek Bayou Lasalle Mill Creek Rotten Bayou Pellaphalia Creek Rotten Bayou	02481663 02481665.18 112A16 112C68 112D64 112D67 112D99 113A47 113B82
Coldwater River (GY11)	Walnut Lake White Oak Bayou	113D87 113D88
Sunflower Restoration Project (2012)	Big Sunflower River Turkey Bayou Quiver River Parks Bayou Quiver River Quiver River	07288621 111A49 113B21 113B22 113B23 A1350019
Bell Creek-West Prong Muddy Creek (GY10, GY13, GY23)	North Prong Muddy Creek West Prong Muddy Creek North Prong Muddy Creek North Prong Muddy Creek North Prong Muddy Creek Muddy Creek Muddy Creek Muddy Creek Bell Creek Muddy Creek	112D69 112D52 113B77 113B79 113B80 113B81 NI015 113G22 NI016 111F27
Tarebreeches Creek (GY10, GY13)	Tarebreeches Creek Tarebreeches Creek Eastes Creek Little Cane Creek Tarebreeches Creek Little Cane Creek	112B42 112D62 112D63 113B75 113B76 113B78
North Tippah Creek (GY11)	North Tippah Creek North Tippah Creek South Tippah Creek Medlock Branch North Tippah Creek	112B44 112B80 113A45 113A46 113B66
Jasper Creek (GY15)	Jasper Creek Jasper Creek	YZ408 YZ409
Little Topashaw Creek (GY15)	Little Topashaw Creek Little Topashaw Creek	YZ091 112D71
Hudson Creek-Clear Creek (NWQI 2016)	Clear Creek Hudson Creek	YZ038 YZ039
Tilda Bogue-Bear Creek (NWQI 2016)	Tilda Bogue Creek Tilda Bogue Creek	BB104 112B15

	Bear Creek Bear Creek	BB103 BB250
Catalpa Creek (GY16, GY20)	Catalpa Creek Catalpa Creek Catalpa Creek Catalpa Creek Catalpa Creek Catalpa Creek Catalpa Creek Catalpa Creek	111F08 111F09 111F10 111F11 111F12 111F13 113G23 112B83
Dry Creek (GY 16)	Dry Creek Dry Creek Dry Creek	PA024 PA347 111D23
Basket Creek- Hickahala Creek (GY17)	Hickahala Creek Hickahala Creek Hickahala Creek Hickahala Creek Hickahala Creek	YZ014 YZ015 YZ448 YZ133 YZ132
Bear Lake	Phillips Bayou Yazoo Pass Moon Lake Moon Lake Moon Lake	111A12 A0270015 YZ291 YZ292 YZ431
Booths Creek-Bayou Pierre (FY18 NWQI)	Bayou Pierre Bayou Pierre Storm Creek Booths Creek	112D94 111F17 SI013 112G23
Old Fort Bayou (GY18, GY19)	Old Fort Bayou	112G59
Sherman Creek (GY16, GY18, GY20)	East Levee Creek Sherman Creek Buntyn Creek Panola Quitman Floodway	111B15 113A54 YZ240 YZ365
Upper Little Bayou Pierre (GY18)	Little Bayou Pierre Bayou Pierre Bayou Pierre Brandywine Creek Brandywine Creek	111F16 111F17 112D94 111D57 112G95
Carmichael Creek- Town Creek (GY19)	Town Creek Carmichael Creek Town Creek Leeper Creek	112B29 111F30 TB552 112B91
Broken Pumpkin Creek (GY19)	Broken Pumpkin Creek Broken Pumpkin Creek	TB146 TB562
Owl Creek (GY20)	Owl Creek Little Hatchie River	112B43 NI005



	Little Hatchie River	07029260
Ellison Creek (GY21)	Ellison Creek	BB071
Fuller Creek-Town Creek (GY22)	Town Creek	TB116
	Town Creek	TB525
	Fuller Creek	112D52
Muddy Bayou (GY22)	Muddy Bayou	112B62
Upper Piney Creek (GY22)	Piney Creek	111F65

All MDEQ monitoring funded by EPA grants is carried out under QAPPs prepared using *EPA QAPP Guidelines*. Monitoring activities conducted by MDEQ for parameters that are under the *Mississippi Water Quality Standards* are conducted in accordance with the *Mississippi Consolidated Assessment and Listing Methodology (CALM)* when possible. Laboratory procedures and data management are covered under approved MDEQ SOPs. Data collected in conjunction with the USGS is entered into the NWIS data system and is publicly available via their website. The MDEQ maintains a quality management plan (QMP) for data management and prescribed procedures within the organization and the NPS Program will continue to work within QMP guidelines.

**Water Quality Assessment** - Section 319 requires that states identify water bodies where NPS pollution causes impairment of water quality. This is done as part of the biennial assessment of the water quality of state water resources. The biennial assessment of water quality of state water resources is required by Clean Water Action Section 305(b). This biennial water quality assessment has three purposes: identify those waters where water quality does not support their designated uses, identify the cause(s) of the poor water quality (i.e., pollutant), and identify the pollutant source(s). In order to determine the status of waters, work must also be done to develop tools and other activities to support those assessments. In Mississippi, an index of biotic integrity is used to assess stream health. This tool is also used to help measure incremental improvement and ultimate attainment of stream health after implementation of conservation measures in watersheds. Another assessment tool used is the stressor identification process. This process helps to determine the environmental stressor that is contributing to the impairment in biologically impaired streams thereby helping to target implementation strategies for watershed improvement. With the identification of the primary probable cause of the impairment determined through the stressor identification process, TMDL development (and restoration planning) can now proceed for those segments.

**Water Quality Modeling** – There are a variety of computer models available to help in the management of NPS pollution. These models can be used to estimate pollution load reductions once best management practices and conservation measures are implemented. Some can even provide estimates of NPS pollutant loads in watersheds before conservation is implemented and then provide an estimate of how much of the pollutant can be removed (load reduction) once BMPs are implemented. These models are very helpful because they can be used to show how successful implementation of NPS conservation practices can be. The NPS program uses EPA’s R5 Model to estimate the pollutant load reductions achieved through the implementation of NPS demonstration projects statewide. These results are entered into EPA’s GRTS database.

***Hypoxia Task Force (HTF)*** – MDEQ continues to support the efforts of the Mississippi River and Gulf of Mexico Watershed Nutrient Task Force (Task Force). The Task Force was established in 1997 to understand the causes and effects of eutrophication in the Gulf of Mexico, coordinate activities to reduce the size, severity, and duration, and mitigate the effects of hypoxia. The Hypoxia Task Force is a partnership of 12 states, five federal agencies, and a representative for the tribes that work collaboratively to reduce nutrient pollution in the Mississippi/Atchafalaya River Basin (MARB). Activities of the Task Force include coordinating and supporting nutrient management activities from all sources, restoring habitats to trap and assimilate nutrients, and supporting other hypoxia related activities in the Mississippi River and Gulf of Mexico watersheds.

Staff from MDEQ's NPS Program continue to work with the HTF to produce information and materials needed to update the bi-annual report to Congress along with separate reports from the various different workgroups that were organized to further the efforts of the HTF. These reports provide an accounting of accomplishments completed over the last two years within the MARB and is scheduled for completion by the end of the year. The Task Force continues its work addressing evolving research needs, better ways to track conservation practices and nutrient reduction activities in the basin, opportunities for cooperative federalism, and the critical role partnerships play in achieving success. Staff also participate in monthly HTF conference calls, scheduled workgroup calls, and annual HTF meetings.

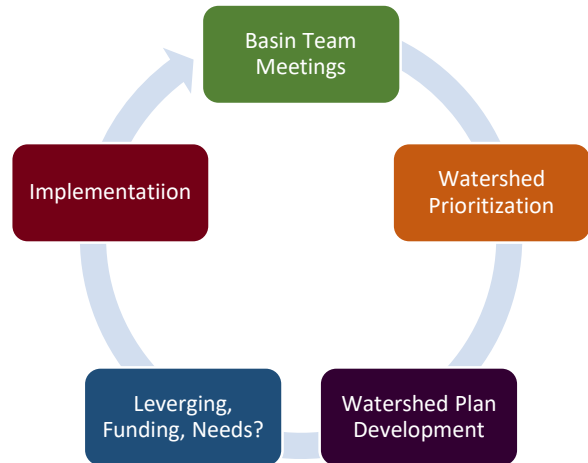
In FFY 2023, MDEQ continued work to aggregate and evaluate agricultural best management practices statewide. Watershed level data was obtained from USDA representing implementation activities funded 2008-2021. These data were then combined with BMPs implemented using funding from Section 319 grants to develop preliminary load reduction estimates through time. The work is funded through a separate grant but will improve MS's ability to report on environmental outcomes achieved through implementation of these practices. Also, in FFY 2023, MDEQ received grant funds from the Gulf Hypoxia Program (GHP) that was formed through the passage of the Bipartisan Infrastructure Law. Through the GHP, the states that make up the HTF were allocated funding for 5 years to help further efforts under the state's nutrient reduction strategies. In March 2023, Mississippi received funding allocated for FFY 2022 and FFY 2023. This first round of funding focuses heavily on collecting data and building tools that can help Mississippi establish a strong foundation for making management decisions. Specifically, this funding is being used to support program staffing, characterize delivered nitrogen loads to the Mississippi River (background nutrient contribution) through establishing real-time nitrate monitoring on major tributaries into the MS River, estimate load reductions achieved through implementation of conservation practices (load reductions achieved), and build a new biological response metric that can help measure success of nutrient reduction activities (success measure).

***Gulf of Mexico Alliance (GOMA)*** – The GOMA is a partnership of the five Gulf States, federal agencies, academic organizations, businesses, and other nonprofit organizations (NGOs) in the region. Their goal is to significantly increase regional collaboration to enhance the environmental and economic health of the Gulf of Mexico. With support from state and federal agencies, academic organizations, NGOs, and businesses in the region, GOMA Partners work

collaboratively on teams to address the region’s priorities in ways that a single entity cannot. Staff members of MDEQ serve on various teams within the GOMA including Alliance Management, Alliance Coordination, and each of the Priority Issue Teams.

## **The Basin Management Approach**

The key strategy used in the Mississippi NPS Program for collaboration among agencies, organizations, institutions, and stakeholders, is the MDEQ Basin Management Approach (BMA). The mission of the BMA is to foster stewardship of Mississippi's water resources through place-based, collaborative water resources planning, education, protection, and restoration initiatives. The BMA provides a vehicle for bringing people together to collaborate on identifying and addressing a variety of water resources concerns, including NPS pollution. The building blocks of the BMA are Basin Groups, Basin Teams, and Watershed Implementation Teams.



To fully address water resources concerns as a state, MDEQ recognizes it’s going to require working through many pathways and approaches to both protect high quality waters and restore those waters that have been impacted over time. The Basin Management Approach was designed to bring representatives from all water resource management programs, both regulatory and non-regulatory; federal partners, researchers, local governments, and the public together into a single forum where these representatives can work in tandem to prioritize and address Mississippi’s water resources concerns. This approach allows these groups to work within their respective authorities on common issues to achieve common goals in the same places. By focusing time, attention, and resources (where possible) as a collective group, more actual improvement can be achieved, and these achievements benefit everyone.

In concert with these team meetings, and to incentivize stakeholder participation, project funding may be used to purchase food and other refreshments along with providing support for renting facilities in which to host those events. MDEQ generally schedules two Basin Team meetings per year in each basin group. The purpose of these meetings is to provide coordination opportunities, collectively work to identify shared priorities, prioritize watersheds for plan development and allow members to leverage funding where available. In addition to in-person meetings, coordination was performed via the use of webinars, emails, phone calls, and web-based surveys.

## **Watershed Prioritization**

The Basin Management Approach brings together different groups with shared goals of improving water resources while recognizing there are still limited financial resources available to implement conservation practices and other activities to improve water quality. Because of

this challenge, a process was developed to help prioritize watersheds and target where resources and work efforts are implemented to obtain maximum benefits. Working within the Basin Management Approach and the partners that participate on Basin Teams, members work collaboratively to prioritize watersheds and target the watersheds that represent the highest priority for either restoration or protection for watershed plan development and conservation practice implementation.

## **Watershed Based Plans**

For each watershed identified as a priority for NPS pollution management through the Mississippi NPS Program, a Watershed Implementation Team (WIT) is formed. This team is generally composed of local stakeholders, resource agency partners, and any other interested party located within the watershed boundaries. The first responsibility of a WIT is to help gather the necessary information and write a Watershed-based Plan (WBP) for their watershed. Information used in preparing WBPs includes the results of water quality assessments, stressor identification studies, water quality modeling, and TMDLs. This information guides WIT decisions on the types and location of restoration and protection activities to plan in a watershed. In watersheds that have TMDLs, they are used to provide water quality restoration objectives and pollutant load reduction goals for the WBP. During 2023, established WITs with active projects resumed in-person meetings along with using virtual tools facilitate teleconferences and webinars. A combination of stakeholder meetings, teleconferences, and virtual meetings were used to support coordination needs. During 2023, MDEQ developed the 9 Key Element watershed plans for the following watersheds: Crowder Creek-Little Bogue (HUC 080302050505). A full list of completed watershed plans can be accessed via MDEQ's website: [Mississippi Watershed Plans](#).

## **CZARA**

In August 2020, MDEQ, in conjunction with partners from Mississippi Department of Marine Resources (MDMR) and the Mississippi Department of Health, developed a 5-year plan to address work needed to be completed for the state to achieve approval of its Coastal NPS Pollution Management program as required under Section 6217 of CZARA. In FY 2023, MDEQ and MDMR worked to update existing programs, develop outreach materials, and compile documentation needed to address gaps identified under the urban management measures. Accomplishments this year include development of stormwater training materials for local governments and industry professionals, an outreach guidance manual focused on watershed protection and stormwater management, final assessment of nitrogen-limitation in coastal waters, and a GIS inventory of sewerage areas and potential onsite wastewater locations in the CZARA Management Area.

## **Management Plan Goals, Objectives, and Milestones**

Work completed under the Planning element of Mississippi's Nonpoint Source Management Program during fiscal year 2023 are designed to support both the long-term and short-term goals identified in Mississippi's approved 5-yr Nonpoint Source Pollution Management Program plan.

Appendix A provides an update to the milestones and objectives for these goals accomplished during FY 2023.

## **NPS Project Fund Allocations**

### **Element 4: Project Implementation**

This element of the Mississippi NPS Program encompasses those activities undertaken when watershed plans are implemented in targeted priority watersheds. As discussed above, WBPs identify recommended NPS pollution management activities needed to achieve the NPS pollution management goals for a targeted watershed. The NPS pollution management/conservation practices, local NPS pollution awareness and education, and water quality monitoring activities that are recommended in the WBPs are implemented through projects. These NPS pollution control projects are developed and managed by agencies, organizations, or institutions active in the watershed. Through implementation of projects, NPS pollution sources are mitigated, and water resources are improved and protected. While WBPs can, and often do, deal with multiple categories of NPS pollution to address all of the water resources concerns in the watershed; projects usually address a single NPS pollution category such as agriculture or urban stormwater. These projects, when implemented in concert following the practices identified in the WBPs, are what ultimately work together to result in water quality improvements. Although projects may focus on one specific category, or landuse type, they can identify practices to reduce multiple pollutants.

All projects should include, as appropriate, NPS pollution management activities, water quality monitoring, and awareness and education activities. The WBPs developed for the targeted priority watersheds identify NPS pollution best management practices (BMPs) that control the NPS pollutant(s) of concern in the Targeted Watershed. Projects for demonstrating or implementing NPS pollution BMPs will usually focus on the practices identified in the WBP. However, NPS pollution BMPs not specifically named in the WBP can be included in projects funded by §319 sub-grants, as long as they are appropriate for the conditions and NPS pollution sources in the Targeted Watershed and will mitigate the pollutant(s) of concern.

### **Workplans and Sub-grants**

Section 319 sub-grants can be used to fund a wide variety of activities, or projects, related to management of NPS pollution, and these sub-grants can be made with partnering agencies, organizations, local governments, or institutions. The work covered can include training programs, water quality studies, demonstration projects for a wide variety of practices that control NPS pollutants of interest, and cost share to individuals for implementing practices that control NPS pollution. Projects selected for §319 sub-grant funding must be implemented in a targeted priority watershed. Projects must also include work that is consistent with the activities identified in the approved 9 key element watershed plan for that targeted priority watershed.

To implement the nutrient/pollutant reduction strategy, §319 NPS funding is used to support projects in all regions of the state. The projects focus on watersheds with recently developed and approved WBPs so that achievable load reductions can be quantified through pre- and post-implementation water quality monitoring. Implementation of the strategies in these watershed projects will provide additional, cost-effective information related to achievable results and costs. To implement NPS implement projects and the nutrient/pollutant reduction strategies, §319 NPS funding is being used to support projects in all regions of the state.

## **GY18 PROJECTS**

### ***Upper Little Bayou Pierre***

The Upper Little Bayou Pierre watershed is located in Claiborne and Copiah Counties and is 22,120 acres. This watershed contains many land-use types including agricultural land, pastureland, and forest areas; however, the dominant land-use within the watershed is forest (75%). A 9-key element plan was developed for this watershed and accepted by EPA. This project was negatively impacted by the pandemic due to reduced interaction with stakeholders in the watershed. This project ended in fall 2022. The following BMPs were implemented as part of this project: 1 Grade Stabilization Structure, 6 acres of Critical Planting Area, 988 feet of Fencing, 402.3 acres of Nutrient Management, 73.7 acres of Pasture and Hayland, and 1 Water and Sediment Control Basin. Even with limited stakeholder participation, BMP implementation resulted in annual reductions of over 900 tons of sediment, 3,000 lbs. of nitrogen, and 1,300 lbs of phosphorus. This project was completed on schedule and within budget.

### ***Sherman Creek (Phased implementation supported using GY18 and GY20 funding)***

The Sherman Creek–Panola Quitman Floodway Watershed is located in the northern portion of Tallahatchie County in North Mississippi covering approximately 33,139 acres. The predominate landuse within this watershed is cropland. Waterbodies within this watershed have several TMDLs on them and they include listings for sediment, Total Nitrogen, Total Phosphorus, Organic Enrichment and Low DO. A 9-key element plan was developed for this watershed and accepted by EPA. During Phase 2 of this project, there were 15 Grade Stabilization Structures, 231 feet of Streambank and Shoreline Protection, 300 feet of Diversion, and 3 Water & Sediment Control Basins installed in the watershed to address NPS pollution sources. The BMPs installed during Phase 2 resulted in annual reductions of over 1,323 tons of sediment, 2,562 lbs. of nitrogen, and 1,222 lbs. of phosphorus. The first phase of this project using GY18 funding was completed with implementation ongoing using GY20 funds.

### ***Old Fort Bayou (Agricultural Component)***

The Old Fort Bayou watershed is located in Jackson County and is 32,079 acres. This watershed contains many land-use types including agricultural land, pastureland, and forest areas; however, the dominant land-uses within the watershed are those related to wetland (46%), urban (15%), and forest (15%) uses. In May 2018, partners in the Old Fort Bayou Watershed formed a Watershed Team to begin the development of a Watershed Based Plan for the Old Fort Bayou Watershed. Implementation of the agricultural component of the Watershed Based Plan is underway. Due to staffing restrictions in response to COVID-19, the local office responsible for landowner sign up and technical assistance was open by appointment only. This impacted local participation in the project along with unusually wet conditions limiting the ability to install

BMPs. Even with limited stakeholder participation, BMP implementation resulted in annual reductions of over 150 tons of sediment, 249 lbs. of nitrogen, and 125 lbs. of phosphorus. This project was completed on schedule and within budget.

## **GY19 PROJECTS**

### ***Carmichael Creek – Town Creek***

The Carmichael Creek-Town Creek watershed is located in southeastern portion of Lee County in North Mississippi covering approximately 26,001 acres. The landuse within this watershed is comprised of approximately 20% cropland, 16% pastureland, 7% wetlands, 36% forestland, and 20% other (water, scrub/barren, and urban). A 9-key element plan was developed for this watershed and accepted by EPA. Due to the COVID-19 pandemic, BMP implementation has taken more time due to restricted access to field offices resulting in less interaction with landowners and producers. BMPs installed during this project include 17 Heavy Use Area Protections, 13 Watering Facilities, 1 Pond, 13,127 feet of Fencing, 26 Grade Stabilization Structures, 40 acres of Permanent Vegetative Cover on Cropland, 29 acres of Pasture and Hayland Planting, 1 Stream Crossing, 3 Water and Sediment Control Basins, and 950 feet of Streambank and Shoreline Protection. The BMPs installed during this project resulted in annual reductions of over 2,851 tons of sediment, 13,058 lbs. of nitrogen, and 4,422 lbs. of phosphorus. This project was completed on schedule and within budget.

### ***Broken Pumpkin Creek***

The Broken Pumpkin Creek watershed is located in Noxubee and Lowndes counties in east central Mississippi covering 24,573 acres. The landuse within this watershed is comprised of approximately 37% cropland, 20% pastureland, 27% wetlands, 10% forestland, and 6% other (water, scrub/barren, and urban). A 9-key element plan was developed for this watershed and accepted by EPA. Due to the COVID-19 pandemic, BMP implementation has taken more time due to restricted access to field offices resulting in less interaction with landowners and producers. BMPs installed during this project include 1 Heavy Use Area Protection, 1 Tank/Trough (Watering Facility), 2 acres of Grassed Waterway, 4,500 feet of Fencing, 3,050 feet of Terrace, 89 acres of Pasture and Hayland, 278 acres of Nutrient Management, 1 Pond, and 1 Grade Stabilization Structure. The BMPs installed during this project resulted in annual reductions of over 964 tons of sediment, 6,565 lbs. of nitrogen, and 1,777 lbs. of phosphorus. This project was completed on schedule and within budget.

### ***Old Fort Bayou (Urban Component)***

The Old Fort Bayou watershed is located in Jackson County and is 32,079 acres. This watershed contains many land-use types including agricultural land, pastureland, and forest areas; however, the dominant land-uses within the watershed are those related to wetland (46%), urban (15%), and forest (15%) uses. Although this project has been completed, the implementation of the Watershed Plan is ongoing with the primary focus being local education and outreach opportunities about conservation and helping people get access to their local environments. The Watershed Plan was updated to include work completed as part of this project along with the status of agricultural best management practices implemented. The revised plan outlines additional projects or implementation needs identified by the Watershed Implementation Team. The purpose of this project was to install selected urban best management practices to address

non-point source pollution sources, implement education and outreach activities, facilitate walking trail development, marsh restoration, and the extension of the Old Fort Bayou Blueway in the Old Fort Bayou Watershed. An outdoor classroom enhancement and trails for St. Martin schools as well as the development of 2-year educational plans for St. Martin High School was developed as part of this project. These plans will be taught as part of the curriculum for Sophomores and Juniors at St. Martin High School's environmental education. The Old Fort Bayou Blueway was extended to include Bayou Talla. This work was completed in cooperation with the Mississippi Department of Marine Resources Natural Heritage Area. Blueway signage was installed along Bayou Talla and the old signage along the Old Fort Bayou Blueway was replaced. A field day was held at the Inlet Condos on July 19, 2023, to unveil the newly constructed boardwalk and walking trail. Best management practices were highlighted along the trail. Public comment was available and included in the final Watershed Plan. This project was completed on schedule and within budget.

### ***Ross Barnett Reservoir***

The Ross Barnett Reservoir has been an irreplaceable resource for Central Mississippi since its construction in the late 1960s. It is the largest source of drinking water in the state supplying over 15 million gallons of water to local residents, businesses, and industries. As it has done for more than 50 years, this plentiful water resource also provides outstanding recreational opportunities, supports economic growth as well as scenic beauty and vital wildlife habitats.

In a continuing effort to leverage resources and to promote the message of protecting and restoring the Reservoir and the Pearl River Watershed, MDEQ, through the Ross Barnett Reservoir Initiative (known as *Rezonate*), has sponsored and helped facilitate several events in and around the Ross Barnett Reservoir. *Rezonate* continues to sponsor, aid and assist partner events hosted in the watershed.

## **GY20 PROJECTS**

### ***Owl Creek***

The Owl Creek-Little Hatchie River watershed is located in Tippah County in north Mississippi covering 25,740 acres. According to the 2016 National Land Cover Database (NLCD), the landuse within this watershed is comprised of approximately 59% forestland, 25% cropland and pastureland, 6% scrub/barren, and 6% urban, and 4% other (water and wetlands). Upon approval of the 9 Key Element Plan, MDEQ entered into a partnership with the MS Soil and Water Conservation Commission to begin implementation of BMPs in the Owl Creek Watershed. Since the execution of this project, the following BMPs have been installed to address water quality concerns: 22,939 feet of Fencing, 32 Streambank & Shoreline Protections, 107 Grade Stabilization Structures, 29 Tank/Troughs (Watering Facilities), 30 Heavy Use Area Protections, 3 Stream Crossings, and 1 Underground Infiltration System. This project is on schedule and within budget.



## **GY21 PROJECTS**

### ***Ellison Creek***

The Ellison Creek Watershed is located just north of Mississippi's capital in Jackson, MS, along the banks of the Big Black River in Yazoo County and covers an area of 10,957 acres. Landuse within this watershed is comprised of approximately 16% cropland, 22% pasture, 55% forestland, and 7% other (water, scrub/barren, wetland and urban). Upon approval of the 9 Key Element Plan, MDEQ entered into a partnership with the MS Soil and Water Conservation Commission to begin implementation of BMPs in the Ellison Creek Watershed. Since the execution of this project, the following BMPs have been installed to address water quality concerns: 4 Grade Stabilization Structures, 1 Stream Crossing, and 1,450 feet of Fencing. This project is on schedule and within budget.

### ***Platner Bayou-Tippo Bayou***

The Platner Bayou-Tippo Bayou Watershed is located in the central portion of Tallahatchie County in North Mississippi covering approximately 31,220 acres. Landuse within this watershed is comprised of approximately 67% cropland, 13% wetlands, 10% forestland, and 10% other (water, scrub/barren, pastureland and urban). This watershed is unique in the fact that part of it lies within the Bluff Hills ecoregion and the other part is in the Mississippi Alluvial Plain otherwise referred to as the Mississippi Delta. Only 14% of the watershed falls within the Bluff Hills Region of the Yazoo Basin while the majority of the watershed, 86%, is located within the Mississippi Delta. A 9-key element plan was developed for this watershed and accepted by EPA. An agreement was executed to fund BMP implementation in the Platner Bayou-Tippo Bayou Watershed. The meeting held with the landowners in the watershed was successful, showing much interest in participating in this project. Most of the focus to date has been on completing surveys and designs for needed structures. Installation will begin after harvest and when weather conditions are suitable. This project is on schedule and within budget.

### ***Yazoo Pass***

The Yazoo Pass Watershed is located predominately in northeastern Coahoma County with a small amount in northwestern Quitman County. The Yazoo Pass Watershed is a 25,662-acre watershed where cropland comprises 75% of the landuse within the watershed. The remaining landuse within this watershed is comprised of approximately 10.5% wetlands, 10% water, and about 4.5% of a mixture of urban, pasture-grassland, forest, and scrub-barren landuses. A 9-key element plan was developed for this watershed and accepted by EPA. An agreement was executed to fund BMP implementation in the Yazoo Pass Watershed. BMP implementation is ongoing, and this project is on schedule and within budget.

## **GY22 PROJECTS**

### ***Fuller Creek-Town Creek***

The Fuller Creek-Town Creek Watershed is located in Northeast Mississippi in the Tombigbee River Basin and is part of the larger Blackland Prairie ecoregion (65a). The watershed lies northeast of the city of West Point in the southern portion of Monroe County and upper portion of Clay County covering approximately 20,346 acres. There are two major streams that run through the watershed: Town Creek on the western side of the watershed and Fuller Creek on the eastern side. Ultimately, Fuller Creek drains into Town Creek near the southern border of the watershed. According to the 2019 National Land Cover Database (NLCD), the landuse within this watershed is comprised of approximately 43% pasture/grassland, 37% cropland, 8% wetlands, 6% forestland, and 6% other (water, scrub/barren, and urban). A 9-key element plan was developed for this watershed and accepted by EPA. An agreement was executed to fund BMP implementation in the Fuller Creek-Town Creek Watershed. A successful landowners meeting was held, and BMP sites are being identified. Once the surveys and designs are complete, installation will begin as weather conditions allow. This project is on schedule and within budget.

### ***Muddy Bayou-Opossum Bayou***

The Muddy Bayou-Opossum Bayou Watershed is located in the south-central portion of Quitman County and the northwestern part of Tallahatchie County in North Mississippi covering approximately 32,731 acres. From its headwaters east of Stover, Mississippi, Muddy Bayou meanders south from the northern areas of the watershed moving east along the boundary and finally draining into Opossum Bayou at the mouth of the watershed. The Muddy Bayou watershed is located in the Mississippi River Delta region within level III ecoregion (73) Mississippi Alluvial Plain and level IV (73b) Loess Plains. Most streams in the Muddy Bayou-Opossum Bayou watershed are intermittent except for Muddy Bayou and several drainage canals. According to the 2019 National Land Cover Database (NLCD), the landuse within this watershed is comprised of approximately 76% cropland, 21% wetlands, and 3% other (water and urban). A 9-key element plan was developed for this watershed and accepted by EPA. An agreement was executed to fund BMP implementation in the Muddy Bayou-Opossum Bayou Watershed. A successful landowners meeting was held, and BMP sites are being identified. Once the surveys and designs are complete, installation will begin as weather conditions allow. This project is on schedule and within budget.

### ***Upper Piney Creek***

The Upper Piney Creek Watershed is located in the Northeastern portion of Yazoo County, just east of Yazoo City, in North Central Mississippi covering approximately 31,154 acres. This watershed includes Piney Creek from the headwaters to the watershed boundary. Piney Creek serves as the mainstem drainage for the watershed and flows west from the headwaters to the watershed boundary. The watershed includes several smaller unnamed intermittent streams and some small ponds. According to the 2019 National Land Cover Database (NLCD), the landuse within this watershed is comprised of approximately 64% forestland, 20% pastureland, 9%

cropland, and 7% other (water, scrub/barren, wetland, and urban). A 9-key element plan was developed for this watershed and accepted by EPA. An agreement was executed to fund BMP implementation in the Upper Piney Creek Watershed. A successful landowners meeting was held, and BMP sites are being identified. Once the surveys and designs are complete, installation will begin as weather conditions allow. This project is on schedule and within budget.

## **Project Reporting**

Once grant funding is received and sub-grants are in place to initiate work, project details are entered into EPA's GRTS data system. The approved watershed plans are attached as supporting documentation into GRTS along with annual reporting of progress, expenditures, and load reductions. At the end of the project, the final report is also uploaded into GRTS. In addition to meeting all of the GRTS reporting requirements, all project partners submit detailed quarterly progress reports that provide updates on completed milestones and expenditures along with any pictures of BMPs or results from any education or outreach events conducted. Any delays or issues implementing the projects are noted in the quarterly progress reports. This allows for project managers and our partners can work together to develop solutions to ensure the project meets goals and is completed within grant timelines. Project summaries are often included as part of the NPS annual report and the NPS Program works with partners to use Basin Team Meetings, field days, and watershed team meetings as additional opportunities to provide presentations and project updates. At the conclusion of the project, final reports are developed to address each component of the work funded, load reductions are calculated where BMPs are implemented and, when possible, project summary scorecards are developed as an easy, 1-page, summary of the work completed in the watershed. As required, project progress reports were loaded into GRTS. Final project reports were loaded into GRTS for any implementation projects that were completed during FY2023.

## **Management Plan Goals, Objectives, and Milestones**

Work completed under the Project Implementation element of Mississippi's Nonpoint Source Management Program during fiscal year 2023 are designed to support both the long-term and short-term goals identified in Mississippi's approved 5-yr Nonpoint Source Pollution Management Program plan. Appendix A provides an update to the milestones and objectives for these goals accomplished during FY 2023.

## **Element 5: Projects Implementation Support**

This element encompasses those activities of the Mississippi NPS Program that support implementation projects in targeted priority watersheds. The Mississippi NPS Program has established partnerships with multiple agencies, organizations, and institutions at the state or basin level as part of Program Implementation. Technical and financial support of the local, project-specific activities of these partners is considered part of Mississippi NPS Program Support for Project Implementation. Funding under this element can be used to support a range of activities as long as the outcomes ultimately address work needed to support project goals. Often, this funding ensures technical assistance is available at the local watershed level from

partner agencies, organizations, and institutions. Some activities supported include partnership and support from local soil and water conservation district staff as well as NRCS technical assistance to design and implement NPS best management practices. These funds ensure these subject matter experts can participate in watershed implementation team meetings. This element also includes activities associated with monitoring to evaluate the effects of local projects on water quality.

Funding is also used to support partnership agreements with the USGS to subsidize on-going monitoring in watersheds where NPS pollution demonstration projects are either on-going or where implementation is completed, and follow-up monitoring is needed to measure water quality benefits achieved as a result of BMP implementation. The partnership between the Mississippi NPS Program and the USGS is unique in that the USGS leverages staff time to support monitoring as well as assessment and data analysis efforts that support shared water resource management goals with the NPS program. As part of these efforts, USGS staff participate in watershed monitoring and data analysis efforts that can be used to measure the success of NPS conservation practice implementation. This work can also be used to further the scientific understanding of different systems, determine new ways to establish monitoring protocols and load reductions, and collect data to refine individual BMP effectiveness/efficiency estimates for practices implemented on Mississippi soils, watersheds, and unique drainage systems like are found in the Mississippi River Alluvial Plain.

All water quality data collected using §319 funds is conducted in accordance with EPA-approved QAPPs and the results are uploaded into EPA national data systems as per the requirements of grant. Data collected in collaboration with the USGS are made available in the USGS's National Water Information System (NWIS). All data available in NWIS can also be obtained from the National Water Quality Monitoring Councils Water Quality Portal. This portal allows the public to access water quality data from both the EPA and USGS water quality data systems.

The NPS program staff, in cooperation with the Office of Land and Water, the National Resource Conservation Service (NRCS), the U.S. Geological Survey (USGS) and Mississippi Soil and Water Conservation Commission, continue to act as resource agencies for information on managing NPS project support for watershed projects. Public education and technical support for these projects are provided for all categories of NPS pollution. The purpose of this support in funding is to aid ongoing watershed nutrient reduction projects, NPS demonstration projects, active *National Water Quality Initiative* (NWQI) and *Mississippi River Basin Initiative* (MRBI) watershed projects, and previously funded watershed implementation projects where continued monitoring is needed to show success. Milestones/Outputs for the technical assistance activities associated with watershed project support include participating in Basin Team meetings, conservation education, project tracking, monitoring, and other watershed project type activities that are directly supporting a NPS Watershed project.

## **United States Geological Survey**

USGS - Mississippi Water Science Center and MDEQ have an ongoing partnership to develop and implement watershed monitoring plans to include pre- and post- monitoring for selected §319-funded restoration projects. Water quality data (e.g. biological, physical, chemical, and/or

stream flows) is collected annually at various locations throughout the State in waters that have been assessed as impaired and where BMPs have been implemented in the recent past. All final data are available on USGS’s publicly facing data warehouse [NWIS \(National Water Information System\)](#) and interpretations will be published as an interpretive report after each individual project. All MDEQ monitoring funded by EPA grants is carried out under QAPPs prepared in accordance with the EPA QAPP Guidelines. The USGS station numbers for monitoring sites funded through this project are as follows:

<b>USGS Station Number</b>	<b>enSPIRE ID</b>	<b>USGS Station Name and Description</b>
333420090445900	111A24	Porter Bayou Trib No. 1 NW Frazier, MS
07288521	111B40	Porter Bayou at Stephenville, MS
333601090450000	111F01	Porter Bayou near Shaw, MS
341404090385600	111D07	Overcup Slough Trib No. 1 near Farrell, MS
341550090391300	113A30	Overcup Slough Trib No. 2 near Farrell, MS
07288068	111B37	Harris Bayou at Palmer Rd East of Alligator, MS
07288048	111A14	Riches Bayou at Sherard, MS
07287720	111A12	Phillips Bayou at Powell, MS

### **Natural Resource Conservation Service**

The NPS Program is implemented in cooperation with several agencies, organizations, and groups at all levels of government and in the private sector. A great focus is given to activities that promote consensus building and partnering to increase the overall effectiveness of the State’s NPS Program. One key partnership to increase this overall effectiveness of the program is with the USDA NRCS. MDEQ’s memorandum of agreement with the USDA NRCS allows for greater collaboration and consistency in selecting priority areas within the state of Mississippi. This agreement allows for more leveraging between agencies and other partners to target the same areas, increasing the impact of the programs NRCS offers and the Section 319 funding MDEQ receives. Using the assessment tools, such as the Mississippi Watershed Characterization and Ranking Tool (MWCRT), and monitoring data have allowed for more informed decisions to be made regarding water quality issues in Mississippi. A couple of these collaborations include acquiring funding for the MRBI and the NWQI programs.

### **Management Plan Goals, Objectives, and Milestones**

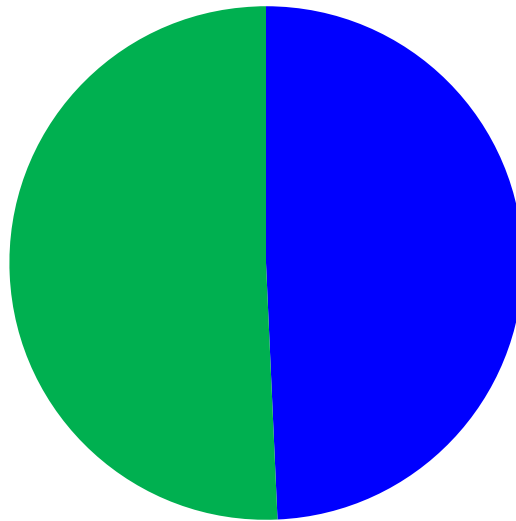
Work completed under the Project Implementation Support element of Mississippi’s Nonpoint Source Management Program during fiscal year 2023 are designed to support both the long-term and short-term goals identified in Mississippi’s approved 5-yr Nonpoint Source Pollution

Management Program plan. Appendix A provides an update to the milestones and objectives for these goals accomplished during FY 2023.

## GRANT BUDGET SUMMARY

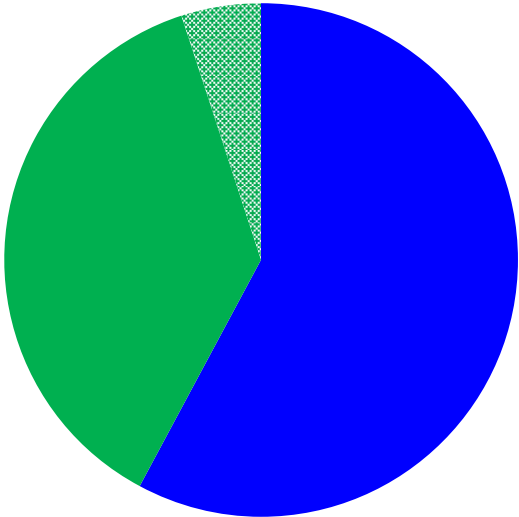
Provided below is a breakdown by active grant of estimated expenditures. These expenditure breakdowns are sub-divided between funds allocated for outlay under “Program” funds and “Project” funds. Final expenditures are provided separately as part of the required grant FFR reporting. These graphics are intended to be used for progress tracking only.

GY18 Funds



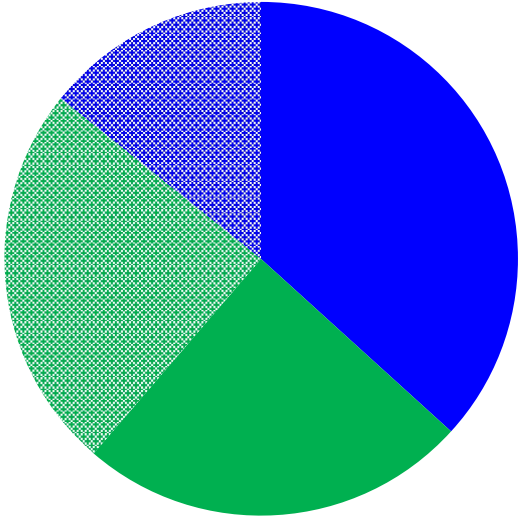
■ Project (spent) ■ Program (spent) ■ Program (balance) ■ Project (balance)

GY19 Funds



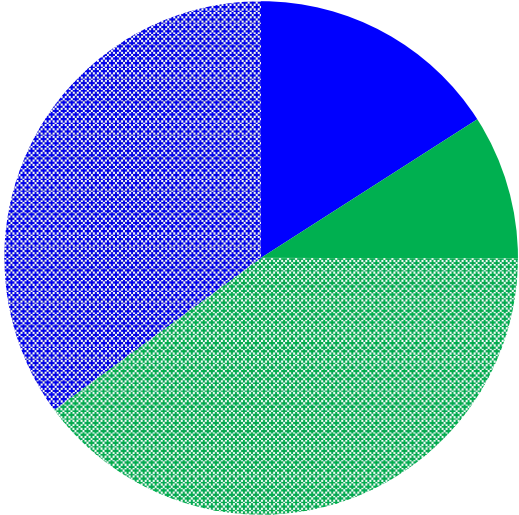
■ Project (spent) ■ Program (spent) ■ Program (balance) ■ Project (balance)

GY20 Funds



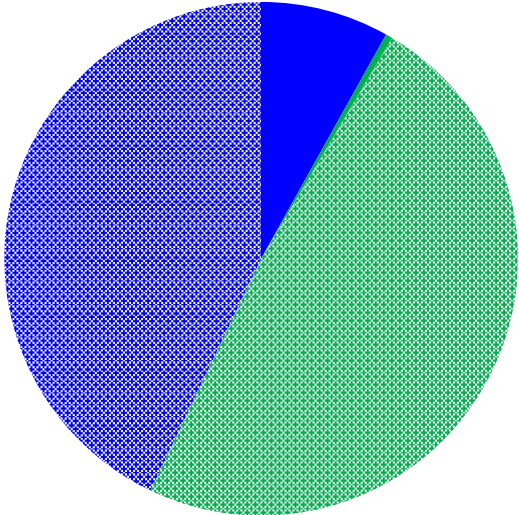
■ Project (spent) ■ Program (spent) ■ Program (balance) ■ Project (balance)

GY21 Funds



■ Project (spent) ■ Program (spent) ■ Program (balance) ■ Project (balance)

GY22 Funds



■ Project (spent) ■ Program (spent) ■ Program (balance) ■ Project (balance)

\*The FY23 grant was not received until October 2023.



## **Appendix A**

### Mississippi 2020 NPS 5-yr Management Plan

This Appendix was added to the Annual Report as an additional tracking measure.

# Mississippi NPS Program Goals, Objectives, and Milestones

## Vision

The **Vision** of the Mississippi NPS Program is to **ensure safe, clean, healthy, and sustainable water resources to meet the needs and uses of present and future generations of Mississippians.**

Three long-term goals help ensure this vision is achieved:

1. Protect and improve the quality of Mississippi water resources for human uses;
2. Achieve water quality improvements through mitigation of NPS pollution; and
3. Foster wise economic growth through focused research, responsible regulation, widespread education, and collaborative efforts through partnerships.

These long-term goals reflect a 20-year planning horizon. Each of the five Mississippi NPS Program elements also have five-year short-term goals with associated objectives. Within the table format, there is space available to provide information on milestones accomplished each year to achieve the objectives and goals defined. This Appendix provides short-term goals, objectives, and milestones for each of the 5 key NPS Program Elements.

## Program Administration – Element 1

Goal 1: Periodically review, assess, and report on progress toward achieving the NPS Program goals and milestones and revise as new information becomes available.					
NPS Program Objectives	Milestones Reported Annually to Meet Program Objective and Goal				
	2020	2021	2022	2023	2024
a. Track and report on annual milestones to accomplish NPS Program goals and objectives.	MS NPS Program Goals, Objectives, and Milestones updated and included as Appendix A in the FY20 Annual Report	MS NPS Program Goals, Objectives, and Milestones updated and included as Appendix A in the FY21 Annual Report	MS NPS Program Goals, Objectives, and Milestones updated and included as Appendix A in the FY22 Annual Report	MS NPS Program Goals, Objectives, and Milestones updated and included as Appendix A in the FY23 Annual Report	
b. Update the NPS Management Plan every five years to reflect program changes and success toward meeting NPS Program goals.	Management Plan updated January 2020.	No revision in FY 2021	No revision in FY 2022	No revision in FY 2023	
Goal 2: Manage the NPS Program budget and grants efficiently using appropriate technical and financial instruments.					
a. Collaborate and coordinate with the MDEQ OPC Grants personnel to submit financial reports required in administrative conditions of Section 319 grant.	FFRs are provided to EPA for all active Section 319(h) grants following grant reporting requirements.	FFRs are provided to EPA for all active Section 319(h) grants following grant reporting requirements.	FFRs are provided to EPA for all active Section 319(h) grants following grant reporting requirements.	FFRs are provided to EPA for all active Section 319(h) grants following grant reporting requirements.	
b. Collaborate and coordinate with the MDEQ OPC Administrative staff to perform required financial risk assessment for sub-grantees	Risk Assessments are required and updated annually for every subgrant. Findings are available upon request.	Risk Assessments are required and updated annually for every subgrant. Findings are available upon request.	Risk Assessments are required and updated annually for every subgrant. Findings are available upon request.	Risk Assessments are required and updated annually for every subgrant. Findings are available upon request.	

awarded monies to complete work under the Section 319 grant.					
c. Allocate 50% of Section 319 grant funds to support project implementation.	MDEQ allocates at minimum 51% of grant funds for Project implementation. Project funding allocations are entered into GRTS and reported on annual FFRs	MDEQ allocates at minimum 51% of grant funds for Project implementation. Project funding allocations are entered into GRTS and reported on annual FFRs	MDEQ allocates at minimum 51% of grant funds for Project implementation. Project funding allocations are entered into GRTS and reported on annual FFRs	MDEQ allocates at minimum 51% of grant funds for Project implementation. Project funding allocations are entered into GRTS and reported on annual FFRs	
d. Expend grant funds by the grant end date and no later than 5 years from receipt of funds.	Due to the COVID-19 Pandemic, MDEQ was granted a 1-yr extension to complete work under the FY 2016 grant. Even with the extension, work will be completed within 5 years of the receipt of funding.	Due to the COVID-19 Pandemic, MDEQ was granted a 1-yr extension to complete work under the FY 2016 and 2017 grants. Even with the extension, work will be completed within 5 years of the receipt of funding.	Due to the COVID-19 Pandemic, MDEQ was granted a 1-yr extension to complete work under the FY 2017 and 2018 grants. Even with the extension, work will be completed within 5 years of the receipt of funding.	In FY23, MDEQ coordinated a new start date for Section 319 grant awards as these grants are not awarded until the end of the FY. This allows for a full 5-year period to implement the work in the workplan. MDEQ plans to request a 1-yr extension for the FY20 and FY21 grants to allow a full 5-yr implementation period for those awards.	
e. Obligate Section 319 sub-awards within 1 year after the EPA grant award date.	Completed. Grant funds allocated in GRTS.	Completed. Grant funds allocated in GRTS.	Completed. Grant funds allocated in GRTS.	Pending. At the time of this report, MS's FY23 Grant has not been loaded into the GRTS database.	
f. Dedicate an average of \$100,000 in Section 319 grant funds to the coastal zones as defined by Section 6217 of	Milestone Met. Minimum funding allocated in GRTS and in associated grant workplans.	Milestone Met. Minimum funding allocated in GRTS and in associated grant workplans.	Milestone Met. Minimum funding allocated in GRTS and in associated grant workplans.	Milestone Met. Minimum funding allocated in GRTS and in associated grant workplans.	

CZARA until full program approval is achieved.					
g. Prepare grant application and workplan for new Section 319 grant	FY 2021 Section 319 grant application and workplan submitted on or before September 30, 2020.	FY 2022 Section 319 grant application and workplan submitted on or before September 30, 2021.	FY 2023 Section 319 grant application and workplan will be submitted by June 15, 2023. After discussions with Region 4 grants management staff, it was mutually agreed that MDEQ would submit Section 319 grant applications after the final award amount is determined by final EPA annual budget. This will allow MS 5 full years to implement actions identified in workplans.	FY 2024 Section 319 grant application and workplan will be submitted by June 15, 2024. After discussions with Region 4 grants management staff, it was mutually agreed that MDEQ would submit Section 319 grant applications after the final award amount is determined by final EPA annual budget. This will allow MS 5 full years to implement actions identified in workplans.	
h. Prepare and submit grant close-out reports in compliance with administrative conditions of the Section 319 grant.	No grant close out report due in 2020 due to extension of FY 2016 grant as a result of COVID-19 pandemic.	Grant close-out report for FY 2016 grant submitted on or before December 31, 2021.	Grant close-out report for FY 2017 grant submitted on or before December 31, 2022.	Grant close-out report for FY 2018 grant submitted on or before December 31, 2023.	
<b>Goal 3: Ensure consistency among the NPS Program and other federal and state water resource programs and projects.</b>					
a. Coordinate with federal and state water management programs to maintain alignment of NPS priorities.	SWD and NPS staff maintained active participation in workgroup task force committees and personal communication with cooperating programs to ensure program consistency.	SWD and NPS staff maintained active participation in workgroup task force committees and personal communication with cooperating programs to ensure program consistency.	SWD and NPS staff maintained active participation in workgroup task force committees and personal communication with cooperating programs to ensure program consistency.	SWD and NPS staff maintained active participation in workgroup task force committees and personal communication with cooperating programs to ensure program consistency.	

<p>b. Coordinate with programs managed by MDEQ to leverage resources and identify priorities.</p>	<p>SWD and NPS staff maintained active communication with MDEQ programs to ensure program consistency.</p>	<p>SWD and NPS staff maintained active communication with MDEQ programs to ensure program consistency.</p>	<p>SWD and NPS staff maintained active communication with MDEQ programs to ensure program consistency.</p>	<p>SWD and NPS staff maintained active communication with MDEQ programs to ensure program consistency.</p>	
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## Program Implementation – Element 2

Goal 1: Effectively implement the Mississippi NPS Management Program.					
NPS Program Objectives	Milestones Reported Annually to Meet Program Objective and Goal				
	2020	2021	2022	2023	2024
a. Prepare annual Success Stories (WQ-10) of NPS restoration activities that have been effectively implemented.	Milestone Met. MDEQ submitted a WQ-10 success story for Lake Washington in FY 2020.	Milestone Met. MDEQ submitted a WQ-10 success story for North Tippah Creek in FY 2021.	Milestone Met. MDEQ submitted a WQ-10 success story for Bahala Creek in FY 2022.	Milestone Met. MDEQ submitted a WQ-10 success story for McCall Creek in FY 2023.	
b. Maintain agreements with federal and state agency partners and Mississippi educational institutions.	In FY 2020, the MS NPS Program had 32 active agreements in place to support \$319 work funded under active grants.	In FY 2021, the MS NPS Program had 30 active agreements in place to support \$319 work funded under active grants.	In FY 2022, the MS NPS Program had 38 active agreements in place to support \$319 work funded under active grants.	In FY 2023, the MS NPS Program had 39 active agreements in place to support \$319 work funded under active grants.	
c. Track and report on \$319 sub-grant funds and any match (or in-kind services) reported.	Grant expenditures are reported in annual FFRs and updated in GRTS as part of submitted project progress reports. Project expenses and match are tracked by Project managers and are subject to internal expenditure audits annually.	Grant expenditures are reported in annual FFRs and updated in GRTS as part of submitted project progress reports. Project expenses and match are tracked by Project managers and are subject to internal expenditure audits annually.	Grant expenditures are reported in annual FFRs and updated in GRTS as part of submitted project progress reports. Project expenses and match are tracked by Project managers and are subject to internal expenditure audits annually.	Grant expenditures are reported in annual FFRs and updated in GRTS as part of submitted project progress reports. Project expenses and match are tracked by Project managers and are subject to internal expenditure audits annually.	
d. Support implementation of nutrient reduction strategies.	In FY 2020, MDEQ had 11 Active implementation projects that included nutrient reduction measures. MDEQ partnered with the USGS to perform a	In FY 2021, MDEQ had 13 Active implementation projects that included nutrient reduction measures. A draft report of findings from the nutrient trends	In FY 2022, MDEQ had 15 active implementation projects that included nutrient reduction measures. The nutrient trends analysis report developed by USGS is in final stages of review and	In FY 2023, MDEQ had 11 active implementation projects that included nutrient reduction measures. The nutrient trends analysis report	

	nutrient trends analysis for all ambient monitoring stations statewide.	analysis performed by USGS was developed and submitted for review.	should be available early 2023.	developed by USGS was published. GHP grant was received and implementation of activities was initiated.	
e. Utilize MWCRT and Watershed Planning App to assist partners with NPS planning and implementation activities.	The Basin Teams used the MWCRT to rank priority waters and the Watershed Planning App to set planning priorities in FY 2020. HUCs 080302050701, 080602020404, and 0830204093 were selected for upcoming implementation projects.	The Basin Teams used the MWCRT to rank priority waters and the Watershed Planning App to set planning priorities in FY 2021. HUCs 080302060704, 031601011301, and 080302020403 were selected for upcoming implementation projects.	The MWCRT is used to help target watersheds for implementation purposes. During FY 2022, costs associated with implementation of practices dramatically increased. In concurrence with partner recommendations, it was determined to use any new funds available in FY 2023 to meet outstanding implementation needs in watersheds with active projects.	The MWCRT is used to help target watersheds for implementation purposes. During FY 2023, costs associated with implementation of increased significantly. In concurrence with partner recommendations, it was determined to use any new funds available in FY 2024 to meet outstanding implementation needs in watersheds with active projects.	
f. Provide reports and other documents online for public access.	Reports, plans, and program related documents are loaded into GRTS as required and are available on MDEQ's website.	Reports, plans, and program related documents are loaded into GRTS as required and are available on MDEQ's website.	Reports, plans, and program related documents are loaded into GRTS as required and are available on MDEQ's website.	Reports, plans, and program related documents are loaded into GRTS as required and are available on MDEQ's website.	
g. Develop centralized NPS database to assist with tracking and reporting §319 grant activities.	NPS Program staff are working with internal IT support staff to evaluate existing systems that could be used to store and track 319 grant	NPS Program staff are working with internal IT support staff to evaluate existing systems that could be used to store and track 319 grant	NPS Program staff worked with internal IT support staff and the state office for Information Technology Services (ITS) to develop a contractual mechanism that would	NPS Program staff worked with internal IT support staff and the state office for Information Technology Services (ITS) to develop a	



	implementation information.	implementation information.	allow for the development of a data system designed to support NPS grant reporting and implementation tracking. Contractual mechanism should be finalized in early 2023 and gap analysis will be performed.	contractual mechanism that would allow for the development of a data system designed to support NPS grant reporting and implementation tracking. Contractual mechanism has been finalized and gap analysis will be scheduled in 2024.	
h. Provide all required information/data entry into EPA's GRTS data system for Section 319 funded projects.	All mandated elements were entered into GRTS for FY 2020.	All mandated elements were entered into GRTS for FY 2021.	All mandated elements were entered into GRTS for FY 2022.	All mandated elements were entered into GRTS for FY 2023.	
i. Georeference all best management practices installed through §319 grant program.	Location of all §319 funded BMPs were recorded following FDGC data standards.	Location of all §319 funded BMPs were recorded following FDGC data standards.	Location of all §319 funded BMPs were recorded following FDGC data standards.	Location of all §319 funded BMPs were recorded following FDGC data standards.	
j. Conduct site visits to each project to ensure work is on track or completed.	Three on-site visits were conducted in FY 2020. Due to the COVID-19 pandemic, no site visits were conducted after March 2020.	On-site visits were conducted for active implementation projects prior to authorization of reimbursement payments for BMP implementation. When on-site access was limited due to COVID restrictions, photo documentation was submitted and reviewed.	On-site visits were conducted for active implementation projects prior to authorization of reimbursement payments for BMP implementation. When on-site access was limited, photo documentation was submitted and reviewed.	On-site visits were conducted for active implementation projects prior to authorization of reimbursement payments for BMP implementation. When on-site access was limited, photo documentation was submitted and reviewed.	
k. Develop standardized NPS pollutant	NPS Staff are working with MSU to catalog	NPS Staff are working with MSU to catalog	MDEQ is actively working with a team of scientists	MDEQ is actively working with a team	

reductions associated with implementing agricultural BMPs using the EPA Hypoxia Task Force measurement reduction framework to track NPS load reductions statewide.	agricultural BMPs and develop standardized methods to generate load reduction estimates.	agricultural BMPs and develop standardized methods to generate load reduction estimates.	and engineers from Tetra Tech, Inc. to aggregate and organize available implementation data. These data are synthesized by watershed and will be used to develop load reduction estimates.	of scientists and engineers from Tetra Tech, Inc. to aggregate and organize available implementation data. These data are synthesized by watershed and will be used to develop load reduction estimates.	
<b>Goal 2: Implement a strategic Awareness, Outreach, and Education Program.</b>					
a. Conduct 4 Area and 1 State Envirothon Competition(s) annually.	Envirothon competitions were cancelled in FY 2020 due the COVID-19 pandemic.	Envirothon Area Competitions were cancelled due to tornadoes statewide on the day of the competition. Instead, the 19 registered teams were all invited to the State Competition. There were approximately 200 students, advisors, and staff present for the competition.	Milestone met. The state competition was held March 2022, consisting of 27 teams. There were approximately 200 students, advisors and staff present for the competition. The national competition was held in Oxford, Ohio with the Mississippi team placing 19 <sup>th</sup> overall	Milestone met. The state competition was held March 2023, consisting of 27 teams. There were approximately 200 students, advisors and staff present for the competition. The national competition was held in New Brunswick, Canada with the Mississippi team placing 22 <sup>nd</sup> out of 49 teams in the national competition.	
b. Conduct at least 4 stream stewardship outreach/education workshops annually.	Due to the COVID-19 pandemic, events scheduled after March 2020 were cancelled. Only, 1 workshop was conducted. Using a	Due to the COVID-19 pandemic, some Adopt-A-Stream activities were cancelled or postponed. During	Milestone Met. Twelve (12) in-person teacher workshops were conducted reaching 251 adults about water-quality	Milestone Met. (8) in-person teacher workshops were conducted reaching 159 adults about water-quality	

	<p>combination of in-person and online interactions, training and outreach was provided to 172 high school students; 52 aquatic ecology outreach events were conducted reaching 1,204 students; and over 2,400 people were reached through education activities provided through demonstrations provided at large-venue events, conferences, and public events.</p>	<p>2021, AAS used virtual platforms and in-person interactions to promote field days and workshops as allowed. During 2021, 12 in-person teacher workshops were conducted and reached 196 adults about water quality subjects; Virtual training for Envirothon students regarding the aquatic subjects tested were viewed 97 times by these teams; Aquatic-ecology programs were conducted both virtually and in-person for 13 classes reaching 122 students; 5 stream clean-up, storm drain marking and recycle events were participated in; and over 14,000 people were reached through education activities provided through demonstrations provided at large-venue events, conferences, and public events.</p>	<p>subjects. Envirothon training reached 159 students to provide information on aquatic systems and water quality. Aquatic-ecology programs were conducted for 39 classes reaching 751 students. Four stream clean-up, storm drain marking and recycle events were conducted. Over 25,500 people were reached through education activities provided through demonstrations provided at large-venue events, conferences, and other public events.</p>	<p>subjects. Envirothon training reached 138 students to provide information on aquatic systems and water quality. Fifty-two (52) aquatic-ecology programs were conducted reaching 711 students. Four stream clean-ups, storm drain marking and recycle events were conducted. Over 57,600 people were reached through education activities provided through demonstrations provided at large-venue events, conferences, and other public events.</p>	
<p>c. Conduct at least 10 environmental education teacher workshops annually.</p>	<p>Due to the COVID-19 pandemic, the majority of the scheduled teacher workshops</p>	<p>During 2021, thirteen (13) teacher workshops were held in Mississippi with</p>	<p>During 2022, thirteen (14) teacher workshops were held in Mississippi with approximately 225</p>	<p>During 2023, eight (8) teacher workshops were held in Mississippi</p>	

	<p>were cancelled or postponed due to health concerns and in compliance with Centers for Disease Control (CDC) and MS Dept. of Health social distancing, health, and safety protocols. During 2020, three (3) teacher workshops were held in the northwest region of Mississippi with approximately 23 educators participating. These numbers were low due to the need to comply with the social distancing guidelines and other safety the mandates made by the Governor of Mississippi on how many could gather inside at a time.</p>	<p>approximately 185 educators participating. These numbers were low due to the need to comply with the social distancing guidelines and other safety the mandates made by the Governor of Mississippi on how many could gather inside at a time.</p>	<p>educators participating.</p>	<p>with approximately 159 educators participating.</p>	
<p>d. Conduct at least 10 Project Learning Tree Workshops annually.</p>	<p>Due to the COVID-19 pandemic, the Mississippi Forestry Foundation worked diligently to move this PLT training to an online environment. This was done to due to health concerns surrounding the pandemic and in compliance with Centers for Disease Control (CDC) and MS</p>	<p>Project Learning Tree conducted 14 workshops providing in-person training and 9 virtual workshops. Through this combined approach, PLT education and outreach activities reached over 1700 formal, informal and preservice educators.</p>	<p>Project Learning Tree conducted 8 workshops providing in-person training reaching 250 formal, informal, and resource educators. In FY 2022 our partner providing PLT training had significant personnel changes which led to fewer training events held. The education/outreach position will be filled in FY</p>	<p>Project Learning Tree conducted 11 workshops providing in-person training reaching 210 formal, informal, and resource educators. In FY 2023 our partner providing PLT training had significant personnel changes which led to fewer training events being held.</p>	

	Dept. of Health social distancing, health, and safety protocols. Project Learning Tree conducted 10 workshops providing in person training and 4 virtual workshops reaching 400 formal, informal, and reserve educators.		23 allowing for more outreach to occur.	The education/outreach position will be filled in FY 23 allowing for more outreach to occur.	
e. Conduct at least 10 Environmental Education and Outreach Mobile Classroom events annually.	Due to the COVID-19 pandemic, events scheduled after March 2020 were cancelled. Prior to impacts from the pandemic, 13 events were held reaching 2,247 students, teachers, and citizens.	As safety protocols allowed in 2021, the Environmental Education & Outreach Mobile Classroom conducted 11 events reaching 670 students, teachers, and citizens.	In 2022, the Environmental Education & Outreach Mobile Classroom conducted 21 events reaching over 4,200 students, teachers, and citizens.	In 2023, the Environmental Education & Outreach Mobile Classroom conducted 18 events reaching over 3600 students, teachers, and citizens.	
f. Conduct outreach meetings and/or field days to promote awareness and educate local stakeholders about NPS pollution prevention.	Due to the COVID-19 pandemic, events scheduled after March 2020 were cancelled. Prior to impacts from the pandemic, NPS staff participated in 87 outreach meetings, events, and/or field days interacting with 3,745 people.	MDEQ staff returned to work in person in July 2021. Virtual platforms were used to interact with stakeholders.	In FY 2022 NPS staff participated in 240 outreach meetings, events, and/or field days interacting with 10,000 people.	In FY 2023 NPS staff participated in 250 outreach meetings, events, and/or field days interacting with approximately 10,000 stakeholders and partners.	
g. Fund Summer Ecology Day Camp for students.	Due to the COVID-19 pandemic, the planned Summer Ecology Day Camp was cancelled in FY 2020.	Completed. 88 students participated.	Milestone Met. 6 sessions were held providing over 250 hours of instruction with 84 students participating.	N/A Partner did not pursue funding for this project in FY23	
h. Support the annual Make-A-Splash Event and other	Due to the COVID-19 pandemic, the planned Make-A-Splash event	Due to the COVID-19 pandemic, the planned Make-A-Splash was	In lieu of Make-A-Splash, MDEQ partners with the Mississippi Museum of	In lieu of Make-A-Splash, MDEQ partners with the	

<p>environmental education programs in cooperation with local museums.</p>	<p>was cancelled in FY 2020.</p>	<p>cancelled in FY 2021.</p>	<p>Science to bring outreach directly to students in their classrooms. Through a combination of <i>Streamside Seminars</i> and <i>Writing and Wetland</i> activities, 3 workshops were conducted with 24 participants and more than 200 students participated in the <i>Writing and Wetland</i> classroom activities.</p>	<p>Mississippi Museum of Science to bring outreach to teachers and the public through workshops and a Water Journey Festival. Through the 8 workshops conducted 84 teachers participated. The Water Journey Festival had approximately 250 participants.</p>	
<p>i. At least annually, review print and electronic materials for updates and replenish as needed.</p>	<p>Available NPS informational materials were reviewed. As a result, one guidance manual has been scheduled for update.</p>	<p>Available NPS informational materials were reviewed. Staff are in process of developing a stormwater guidance supplement that is targeted for use in Coastal areas.</p>	<p>Available NPS informational materials were reviewed. An updated Nutrient Management Manual was developed and published by MSU for use in agronomic systems. Draft stormwater management guidance developed specific to coastal areas of state.</p>	<p>Finalized Best Practices for Stormwater and Watershed Protection in Coastal MS. This guidance is available on MDEQ website. Developed companion on-line training modules targeted for elected officials as well as professionals.</p>	
<p>j. Increase general public understanding of water resources, watershed management issues, and actions individuals can take to protect and restore water quality and aquatic habitats.</p>	<p>Due to the COVID-19 pandemic, the majority of the conferences and public outreach events planned for 2020 were cancelled. NPS staff continued to interact with partners and the public via email, teleconferences, and webinars.</p>	<p>Due to the COVID-19 pandemic, the majority of the conferences and public outreach events planned for 2021 were virtual. NPS staff continued to interact with partners and the public via email, teleconferences, and</p>	<p>The majority of the conferences and public outreach events planned for 2022 were virtual. NPS staff continued to interact with partners and the public via email, teleconferences, and webinars.</p>	<p>The majority of the conferences and public outreach events planned for 2023 were virtual. NPS staff continued to interact with partners and the public via email, teleconferences, and webinars.</p>	

		webinars.			
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### Planning – Element 3

Goal 1: Use Partnerships to leverage resources for NPS management.					
NPS Program Objectives	Milestones Reported Annually to Meet Program Objective and Goal				
	2020	2021	2022	2023	2024
a. Obtain approval of remaining conditions pursuant to CZARA Section 6217 in order to achieve fully approved Coastal NPS Management Program.	In August 2020, Mississippi submitted a 5-yr plan to EPA and NOAA outlining the activities and tasks needed to address deficiencies for the remaining unapproved management measure under Section 6217 of CZARA.	In FY 2021, the MS CZARA worked with NOAA and EPA to receive conditional approval for the Marinas Management Measure. Work began to develop an updated stormwater guidance manual targeted for Coastal Areas along with the develop of an on-line stormwater training module that focuses on elected officials.	In FY 2022, the MS CZARA worked with NOAA and EPA to receive conditional approval stormwater design standards along with providing sufficient assurances of legal authority and agency commitment to address pollution sources. Draft stormwater guidance manual targeted for Coastal Areas was developed along with the content for inclusion in on-line stormwater training module. Nutrient data analysis was completed.	In FY 2023, MS completed the following: Received an interim decision document describing how MS has satisfied conditions for the Marinas Management Measures (MM) for Siting & Design and Marina & Boat Operation & Maintenance; Developed and published stormwater guidance manual; Completed data analysis to determine presence/absence of nitrogen limited coastal waters; completed GIS density analysis of OSDS in CZARA	

				Management Area	
b. Collaborate and contribute to NPS pollution management through participation on select Committees, Task Forces, and Work Groups.	MDEQ staff continues to actively participate on committees, task forces, and work groups as identified in Table 9 of the 2020 NPS 5-yr Management Plan.	MDEQ staff continues to actively participate on committees, task forces, and work groups as identified in Table 9 of the 2020 NPS 5-yr Management Plan.	MDEQ staff continues to actively participate on committees, task forces, and work groups as identified in Table 9 of the 2020 NPS 5-yr Management Plan.	MDEQ staff continues to actively participate on committees, task forces, and work groups as identified in Table 9 of the 2020 NPS 5-yr Management Plan.	
c. Continue to partner with MS-USDA-NRCS by meeting at least annually to support the decision-making process and next steps on the National Water Quality Initiative and the Mississippi River Basin Initiative as long as these initiatives remain a national priority.	MDEQ participates in annual NRCS State Technical Meeting and has routine quarterly program coordination meetings.	MDEQ participates in annual NRCS State Technical Meeting and has routine quarterly program coordination meetings.	MDEQ participates in annual NRCS State Technical Meeting and has routine quarterly program coordination meetings.	MDEQ participates in annual NRCS State Technical Meeting and has routine quarterly program coordination meetings.	
d. Encourage watershed planning activities in watersheds with high resource value waters.	Watersheds having high resource value are ranked and prioritized by basin teams annually using data from MWCRT and information provided by partners.	Watersheds having high resource value are ranked and prioritized by basin teams annually using data from MWCRT and information provided by partners.	Watersheds having high resource value are ranked and prioritized by basin teams annually using data from MWCRT and information provided by partners.	Watersheds having high resource value are ranked and prioritized by basin teams annually using data from MWCRT and information provided by partners.	
e. Provide technical assistance to local watershed groups by using Basin Coordinators and NPS Staff to support project development and implementation activities.	NPS Program staff work to develop and actively manage all projects funded by the grant to ensure outputs are met within assigned timelines and budgets.	NPS Program staff work to develop and actively manage all projects funded by the grant to ensure outputs are met within assigned timelines and budgets.	NPS Program staff work to develop and actively manage all projects funded by the grant to ensure outputs are met within assigned timelines and budgets.	NPS Program staff work to develop and actively manage all projects funded by the grant to ensure outputs are met within assigned timelines and budgets.	
f. Support technical	Due to the COVID-19	Due to the COVID-19	The majority of the	The majority of the	



<p>events to exchange information between government partners, researchers, watershed groups, and/or citizens.</p>	<p>pandemic, the majority of the technical conferences and public events planned for 2020 were cancelled. NPS staff participated in virtual meetings and conference when possible. Staff attended the virtual National NPS Conference, Hypoxia Task Force meeting, and NRCS State Technical Steering committee meeting.</p>	<p>pandemic, the majority of the technical conferences and public events planned for 2021 were virtual. NPS staff participated in virtual meetings and conference when possible. Staff attended Hypoxia Task Force meetings, regionally hosted NPS program meetings, and NRCS State Technical Steering committee meeting.</p>	<p>technical conferences and public events planned for 2022 were virtual. NPS staff participated in virtual meetings and conference when possible. Staff attended Hypoxia Task Force meetings, regionally hosted NPS program meetings, annual MACD meeting and NRCS State Technical Steering committee meeting.</p>	<p>technical conferences and public events planned for 2023 were virtual. NPS staff participated in virtual meetings and conference when possible. Staff attended Hypoxia Task Force meetings, regionally hosted NPS program meetings, annual MACD meeting and NRCS State Technical Steering committee meeting.</p>	
<p>g. Use the basin management approach and basin teams to prioritize watersheds for NPS pollution management on an annual basis.</p>	<p>This milestone was completed utilizing a combination of teleconferences, webinars, and surveys in lieu of in person meeting during 2020. In person meetings were not possible due to the COVID-19 pandemic.</p>	<p>This milestone was completed utilizing a combination of teleconferences, webinars, and surveys in lieu of in person meeting during 2021. Virtual meetings were held due to the COVID-19 pandemic.</p>	<p>This milestone was completed utilizing a combination of teleconferences, webinars, and surveys in lieu of in person meeting during 2022.</p>	<p>This milestone was completed utilizing a combination of teleconferences, webinars, and surveys in lieu of in person meeting during 2023.</p>	
<p>h. Select 3 Targeted Watersheds for implementation through the Section 319 grant annually based on available funds, statewide distribution, and available partners.</p>	<p>The following watersheds were targeted for implementation in FY 2020: Platner Bayou – Tippo Bayou; Ellison Creek; and Yazoo Pass.</p>	<p>The following watersheds were targeted for implementation in FY 2021: Upper Piney Creek; Fuller Creek-Town Creek; and Muddy Bayou.</p>	<p>Due to drastically increased costs of implementation, FY 23 funds will be allocated to watersheds with active/ongoing projects. This will allow sufficient funding to implement work included in approved 9 Key Element watershed plans.</p>	<p>Due to drastically increased costs of implementation, FY 24 funds will be allocated to watersheds with active/ongoing projects. This will allow sufficient funding to implement work included in approved 9 Key</p>	

				Element watershed plans.	
i. Identify Watershed Implementation Teams in Targeted Watersheds in conjunction with local partners.	In FY 2020, there were 11 watershed teams working in active project areas.	In FY 2021, there were 13 watershed teams working in active project areas.	In FY 2022, there were 13 watershed teams working in active project areas.	In FY 2023, there were 11 watershed teams working in active project areas.	
j. Generate guidance for developing and/or updating watershed-based plans.	NPS program staff are in process of updating guidance for developing watershed plans.	NPS program staff are in process of updating guidance for developing watershed plans.	NPS Staff focused on updating tools needed to generate watershed plans. This information will be used to update guidance.	NPS Staff focused on updating tools needed to generate watershed plans. This information will be used to update guidance.	
k. Develop/update watershed-based plans for priority watersheds.	In 2020, NPS staff developed 19 key element watershed plan and 6 watershed assessments in support of NWQI and MRBI.	In 2021, NPS staff developed three (3) 9 key element watershed plans.	In 2022, NPS staff developed three (3) 9 key element watershed plans.	In 2023, NPS staff developed one (1) 9 key element watershed plans.	
l. Number of 9 key Element Plans reviewed and accepted by EPA.	1	3	3	1	
<b>Goal 2: Support the MDEQ Water Quality Management process.</b>					
a. Support WQS Branch in developing criteria appropriate for assessing the effects of NPS pollution.	See update on WQS activities completed; FY 2020 Annual Report; Element 3: Planning; pgs 21-22.	See update on WQS activities completed; FY 2021 Annual Report; Element 3: Planning; pgs 20-23.	See update on WQS activities completed; FY 2022 Annual Report; Element 3: Planning; pgs 17-18.	See update on WQS activities completed; FY 2022 Annual Report; Element 3: Planning; pgs 17-18.	
b. Coordinate Section 319 program activities and leverage funding within MDEQ water programs to protect and restore surface and groundwater quality.	MDEQ programs actively participate on basin teams to prioritize watersheds and target implementation.	MDEQ programs actively participate on basin teams to prioritize watersheds and target implementation.	MDEQ programs actively participate on basin teams to prioritize watersheds and target implementation.	MDEQ programs actively participate on basin teams to prioritize watersheds and target implementation.	

c. Work with partners to solicit water quality data to support §305(b) statewide assessment.	Basin team members are asked to provide data to be included in the biennial §305(b) WQ assessment.	Basin team members are asked to provide data to be included in the biennial §305(b) WQ assessment.	Basin team members are asked to provide data to be included in the biennial §305(b) WQ assessment.	Basin team members are asked to provide data to be included in the biennial §305(b) WQ assessment.	
d. Develop statewide assessment for waterbodies to determine water quality status in compliance with Section 305(b) of the CWA.	Completed. MDEQ submitted the biennial Section 305(b) Report in 2020.	MDEQ compiled data and developed assessments in support of 2022 Section 305(b) Water Quality Assessment Report due 4/1/2022.	Completed. MDEQ submitted the biennial Section 305(b) Report in 2022.	MDEQ compiled data and developed assessments in support of 2024 Section 305(b) Water Quality Assessment Report.	
e. Identify waters not meeting one or more designated use and develop the impaired waters list in compliance with Section 303(d) of the CWA.	Completed. MDEQ submitted the biennial Section 305(d) list of impaired waters in 2020	Waters assessed as impaired were submitted for inclusion in the required Section 303(d) List of Impaired Waters due 4/1/2022.	Completed. MDEQ submitted the biennial Section 305(d) list of impaired waters in 2022	Waters assessed as impaired were submitted for inclusion in the required Section 303(d) List of Impaired Waters.	
f. Support Field Services Division water quality monitoring of NPS projects and NPS pollutant loadings.	NPS Program collaborates with FSD to target monitoring in NPS priority watersheds. Data collected are entered into STORET annually.	NPS Program collaborates with FSD to target monitoring in NPS priority watersheds. Data collected are entered into STORET annually.	NPS Program collaborates with FSD to target monitoring in NPS priority watersheds. Data collected are entered into STORET annually.	NPS Program collaborates with FSD to target monitoring in NPS priority watersheds. Data collected are entered into STORET annually.	

## Project Implementation – Element 4

Goal 1: Promote Implementation of restoration (or protection) for priority watersheds.					
NPS Program Objectives	Milestones Reported Annually to Meet Program Objective and Goal				
	2020	2021	2022	2023	2024
a. Award 319 sub-grants to implement management practices to reduce NPS pollution based on an accepted EPA watershed-based plan.	The NPS Program has MOAs in 11 watersheds funding projects to reduce NPS pollution through implementation of BMPs.	The NPS Program has MOAs in 13 watersheds funding projects to reduce NPS pollution through implementation of BMPs.	The NPS Program has MOAs in 13 watersheds funding projects to reduce NPS pollution through implementation of BMPs.	The NPS Program has MOAs in 11 watersheds funding projects to reduce NPS pollution through implementation of BMPs.	
b. Award Section 319 grant funds to implement projects in priority watersheds.	100% of project implementation funds are allocated in priority watersheds.	100% of project implementation funds are allocated in priority watersheds.	100% of project implementation funds are allocated in priority watersheds.	100% of project implementation funds are allocated in priority watersheds.	
c. Pursue full approval of the MS Coastal NPS program pursuant to Section 6217 of CZARA to restore and protect coastal waters.	In 2020, Mississippi worked with federal partners to develop a 5-yr plan for CZARA. In FY 2021 work will begin to implement projects/actions/ tasks outlined in the approved plan.	In FY 2021, the MS CZARA team worked with NOAA and EPA to achieve conditional approval of the Marinas Management Measures.	In FY 2022, the MS CZARA team worked with NOAA and EPA to receive conditional approval stormwater design standards along with providing sufficient assurances of legal authority and agency commitment to address pollution sources. Draft stormwater guidance manual targeted for Coastal Areas was developed along with the content for inclusion in on-line stormwater training module. Nutrient data analysis was completed.	In FY 2023, MS completed the following: Received an interim decision document describing how MS has satisfied conditions for the Marinas Management Measures (MM) for Siting & Design and Marina & Boat Operation & Maintenance; Developed and published stormwater guidance manual; Completed data	

				analysis to determine presence/absence of nitrogen limited coastal waters; completed GIS density analysis of OSDS in CZARA Management Area	
<b>Goal 2: Implement applicable practices that control and reduce NPS pollution.</b>					
a. Require Operation and Maintenance agreements for BMP implementation projects to ensure continued performance and useful life of BMPs.	100% of BMPs implemented with §319 funds have O&M agreements.	100% of BMPs implemented with §319 funds have O&M agreements.	100% of BMPs implemented with §319 funds have O&M agreements.	100% of BMPs implemented with §319 funds have O&M agreements.	
b. Calculate estimated annual Total Nitrogen reductions achieved in priority watersheds.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	
c. Calculate estimated annual Total Phosphorus reductions achieved in priority watersheds.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	
d. Calculate estimated annual Sediment reductions achieved in priority watersheds.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	Load reductions updated in GRTS annually per grant requirements.	

## Project Implementation Support – Element 5

Goal 1: Collect and analyze data related to NPS pollution control and reduction.					
NPS Program Objectives	Milestones Reported Annually to Meet Program Objective and Goal				
	2020	2021	2022	2023	2024
a. Use MDEQ monitoring resources to monitor waters in National Water Quality Initiative watershed.	NWQI monitoring is on-going in the Upper Porter Bayou Watershed and the Middle Porter Bayou Watershed.	NWQI monitoring is on-going in the Upper Porter Bayou Watershed and the Middle Porter Bayou Watershed.	NWQI monitoring is on-going in the Upper Porter Bayou Watershed and the Middle Porter Bayou Watershed.	NWQI monitoring is on-going in the Upper Porter Bayou Watershed and the Middle Porter Bayou Watershed.	
b. Use additional resources (e.g. staff, funds, and technical support) to monitor water quality in watersheds where NPS restoration activities have occurred.	See table provided in FY 2020 Annual Report for list of sites monitoring in support of NPS activities.	See table provided in FY 2021 Annual Report for list of sites monitoring in support of NPS activities.	See table provided in FY 2022 Annual Report for list of sites monitoring in support of NPS activities.	See table provided in FY 2023 Annual Report for list of sites monitoring in support of NPS activities.	
Goal 2: Collaborate with key partners to provide technical assistance in priority watersheds.					
a. Work with respected members of the agricultural community (e.g. MSWCC, NRCS, Delta F.A.R.M., Farm Bureau, etc.) to educate stakeholders and design, fund, and/or implement conservation measures to mitigate NPS pollution.	A list of active watershed implementation projects is provided in the Annual Report under Element 4: Project Implementation. All BMPs implemented must meet NRCS standards and are applied in collaboration with NRCS field staff. Through collaboration	A list of active watershed implementation projects is provided in the Annual Report under Element 4: Project Implementation. All BMPs implemented must meet NRCS standards and are applied in collaboration with NRCS field staff.	A list of active watershed implementation projects is provided in the Annual Report under Element 4: Project Implementation. All BMPs implemented must meet NRCS standards and are applied in collaboration with NRCS field staff.	A list of active watershed implementation projects is provided in the Annual Report under Element 4: Project Implementation. All BMPs implemented must meet NRCS standards and are applied in collaboration with NRCS field staff.	

	with NRCS, 17 watershed assessments in priority watersheds were completed in support of NWQI and MRBI.				
b. Work with respected members of the forestry community (e.g. MS Forestry Commission, Urban Forestry Council, MS Forestry Assoc., etc.) to educate stakeholders and design, fund, and/or implement conservation measures to mitigate NPS pollution.	NPS Program has active projects MS Forestry Commission, the Urban Forestry Council, and MS Forestry Foundation to promote and implement forestry BMPs. Detailed information provided in the annual report.	NPS Program has active projects MS Forestry Commission, the Urban Forestry Council, and MS Forestry Foundation to promote and implement forestry BMPs. Detailed information provided in the annual report.	NPS Program has active projects MS Forestry Commission, the Urban Forestry Council, and MS Forestry Foundation to promote and implement forestry BMPs. Detailed information provided in the annual report.	NPS Program has active projects MS Forestry Commission, the Urban Forestry Council, and MS Forestry Foundation to promote and implement forestry BMPs. Detailed information provided in the annual report.	
c. Work with trusted partners (e.g. land trusts, NGO's, IHL, etc.) in targeted priority watersheds to educate stakeholders and design, fund, and/or implement conservation measures to mitigate NPS pollution.	NPS Program has active projects with trusted partners to implement actions in targeted priority watersheds. Detailed information provided in the annual report.	NPS Program has active projects with trusted partners to implement actions in targeted priority watersheds. Detailed information provided in the annual report.	NPS Program has active projects with trusted partners to implement actions in targeted priority watersheds. Detailed information provided in the annual report.	NPS Program has active projects with trusted partners to implement actions in targeted priority watersheds. Detailed information provided in the annual report.	