

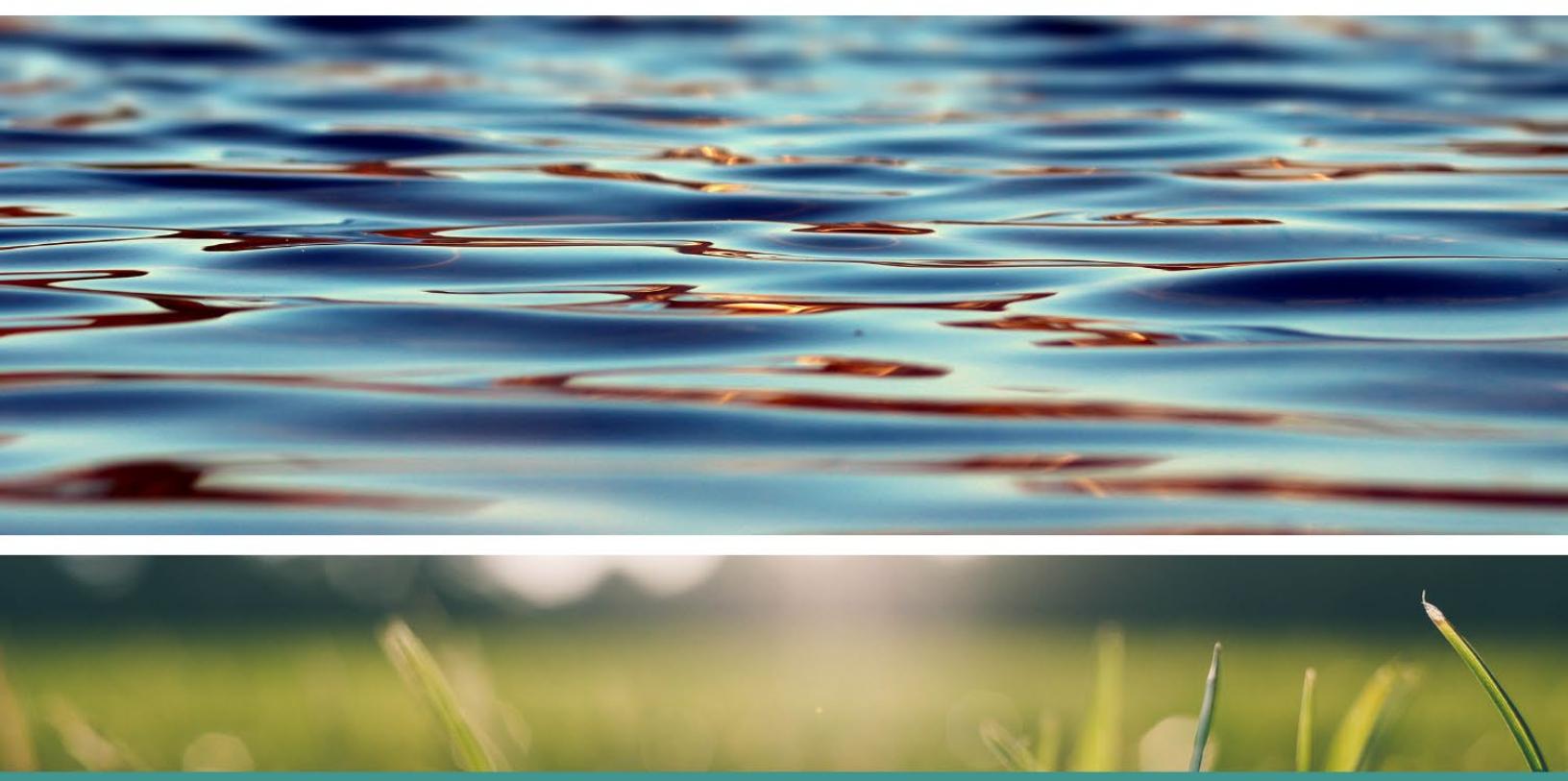


MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

ANNUAL REPORT

FISCAL YEAR 2023

July 1, 2022 - June 30, 2023



PROTECTING YOUR AIR, LAND, & WATER

MESSAGE FROM THE EXECUTIVE DIRECTOR



I am honored to present you with the Mississippi Department of Environmental Quality's Annual Report for the state fiscal year 2023. As stewards of our state's air, land, and water resources, we remain steadfast in our commitment to protecting human health and the environment.

Throughout the past fiscal year, our dedicated team at MDEQ has been diligently working on various programs and initiatives that align with our mission. I am pleased to share some of the notable accomplishments and highlights from our work:

- *Presented the 2022 Mississippi Restoration Summit (p.7)*
- *Handled 925 Calls for emergency response assistance (p.21)*
- *Attained all National Ambient Air Quality Standards throughout the state (p.24)*
- *Modernized the Title V Program fee structure to fund the program adequately (p.29)*
- *Reported 5.8 million tons of waste disposed at permitted landfills and rubbish sites (p. 34)*
- *Conducted approximately 1,240 air and water on-site inspections (p.52)*
- *Issued stormwater general permit coverages for 298 new projects, 54 modifications, and 519 reissuances despite MDEQ staffing shortage (p. 60)*
- *Funded seven new WPCRLF projects totaling \$41.8 million (p.61)*
- *Completed a total of 20 Targeted Brownfield Assessments (p. 62)*
- *Issued and renewed 212 driller licenses in the state (p. 72)*
- *Conducted 452 dam inspections (p. 74)*
- *Took permitting action on 1,648 air and water pollution prevention permits (p.77)*
- *Successfully supported legislation to have the Mississippi Opal declared the Official State Gemstone of Mississippi (p. 79)*
- *Conducted 570 total mine inspections (p. 79)*

These achievements exemplify our commitment to the betterment of our state by conserving and improving Mississippi's abundant natural resources and fostering wise economic growth.

I would also like to take this opportunity to express our sincere gratitude for your unanimous support during the last legislative session in declaring Mississippi Opal as the state gemstone of Mississippi. This recognition is a testament to the remarkable work of our geologists, who discovered this precious gemstone in 2004.

As we move forward, we remain dedicated to our shared goals and look forward to collaborating with you to address the environmental challenges and opportunities that lie ahead. Together, we can continue to make a positive difference in the lives of Mississippians.

Thank you for your time, support, and commitment to the Mississippi Department of Environmental Quality.

A handwritten signature in black ink, appearing to read "Chris Wells".

Chris Wells, Executive Director

STRATEGIC GOALS

This annual report seeks to correlate the following goals of the agency's strategic plan, as outlined in "Building a Better Mississippi: The Statewide Strategic Plan for Performance and Budgetary Success", with the results of its work in State Fiscal Year 2023.

Air Quality Goal: Ensure that Mississippi air quality is protective of the health and welfare of its citizens.

Waste Management Goal: Ensure the proper management of solid wastes and hazardous waste through waste reduction, recycling, and safe disposal practices to protect Mississippi's air, soil and water resources.

Remediation Goal: Protect human health and the environment through proper mitigation, remediation, reclamation, and restoration of natural resources.

Water Quantity Goal: Maintain sustainable quantities of surface and ground water in Mississippi.

Water Quality Goal: Protect and restore surface and groundwater quality in Mississippi.

Emergency Preparedness and Response Goal: Prevent, prepare for, and respond to public health, safety, and environmental emergencies.

Efficient and Effective Public Service Goal: To provide efficient and effective government services and be a good steward of the human, financial, and physical resources provided to the agency by the citizens of the state.

Fiscal Year 2023 Appropriations

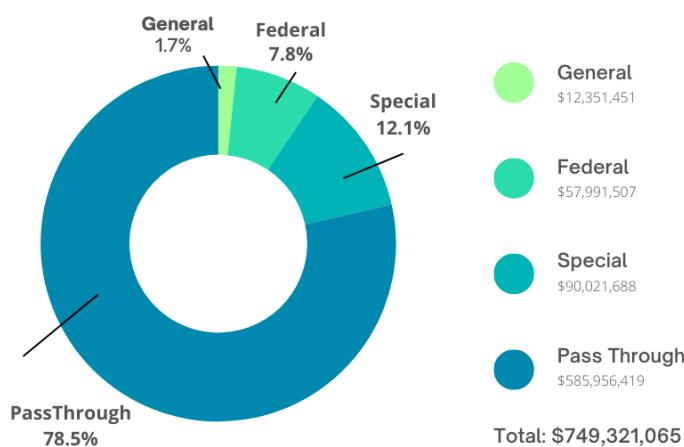


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MDEQ MISSION STATEMENT

Our mission is 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.

COMMISSION ON ENVIRONMENTAL QUALITY

The Commission on Environmental Quality is empowered to formulate department policy, enforce rules and regulations, receive funding, conduct studies for using the state's resources, and discharge duties, responsibilities and powers as necessary.



Chairman
Patrick L. Johnson, Jr.



Vice Chairman
Jamie McRee



Jack Winstead



W.J. (Billy) Van Devender



Brenda Lathan



John Dane III



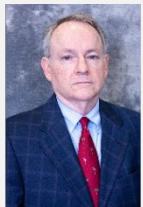
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THE MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

The Mississippi Environmental Quality Permit Board takes action on permits administered through MDEQ. The Permit Board issues, reissues, modifies, denies, transfers, and revokes Mississippi permits and certifications administered under the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, the Surface Mining Control and Reclamation Act, state mining laws, and state water resource control laws.



Chairman
David Dockery



Vice Chairman
Doug Mann



David Snodgrass



Les Herrington



Jennifer Wittmann



Chris McDonald



Chris Hawkins

RESTORATION



RESTORATION

Fiscal Year '23 Accomplishment Highlights

Presented the 2022 Mississippi Restoration Summit, both in person and virtually.

NFWF-GEBF has awarded grants for 34 projects in Mississippi with a total of approximately \$207 million.

Overseeing 23 approved projects/programs for the State Expenditure Plan which totals approximately \$165.2 million in RESTORE Act funding.

Overseeing 42 approved projects/programs for the Multiyear Implementation Plan which totals approximately \$202.3 million in RESTORE Act funding.



MDEQ leads the state's efforts to restore and enhance Mississippi's natural resources following the 2010 *Deepwater Horizon* oil spill. Executive Director Chris Wells serves as Mississippi's Trustee on the Deepwater Horizon Natural Resource Damage Assessment Trustee Council, the Governor's designee for the Gulf Coast Ecosystem Restoration Council, and the state's designee for the National Fish and Wildlife Foundation Gulf Environmental Benefit Fund. Together these bodies, comprised of federal agencies, five states, and a congressionally mandated non-governmental organization are working to implement multiple projects and initiatives to restore the natural resources of the Gulf of Mexico region.



MDEQ Office of Restoration

MDEQ's Office of Restoration oversees and manages all aspects of restoration funded through the NRDA process, the RESTORE Act, and the NFWF GEBF. Using a team of scientists, engineers, and other subject matter experts, MDEQ works with state and federal agencies, local governments, non-governmental organizations, residents, industries, and business owners to develop and implement restoration projects.

MDEQ continues to engage the public throughout the restoration process. Mississippians also have the opportunity to submit restoration project ideas into the state's project idea portal on the MDEQ website. Since its inception in October 2013, the portal has received more than 1,500 submissions ranging from ecological projects to economic development, to infrastructure projects.

Mississippi Restoration Funds

As a result of the oil spill and settlement of claims, MDEQ is the designated manager of Mississippi's Restoration Projects and funds, up to \$2.1 billion Mississippi anticipates receiving to support recovery and restoration efforts. These funds are allocated to the state from civil and criminal penalties levied against the responsible parties under the Clean Water Act and natural resource damages under the Oil Pollution Act. The restoration funds that MDEQ manages for implementing restoration projects come from three primary funding sources:

- RESTORE Act - \$796 million to be paid by the responsible parties over time in accordance with the court-approved payment schedule through 2031.
 - Direct Component (Bucket 1) - \$372.9 million
 - Comprehensive Plan Component (Bucket 2) – Under the RESTORE Act, approximately \$1.59 billion will be administered with each member of the RESTORE Council eligible to receive funding in a competitive process. To date, \$91.6M has been allocated to Mississippi.
 - Spill Impact Component (Bucket 3) - \$304.8 million
 - Centers of Excellence Research Grants Program (Bucket 5) - \$26.6 million
- NFWF GEBF - \$356 million paid by the responsible parties to the GEBF
- Natural Resource Damage Assessment - \$296 million

As a result of the oil spill and settlement of claims, MDEQ is managing approximately \$1.45 billion of the up to \$2.1 billion Mississippi anticipates receiving to support recovery and restoration efforts.

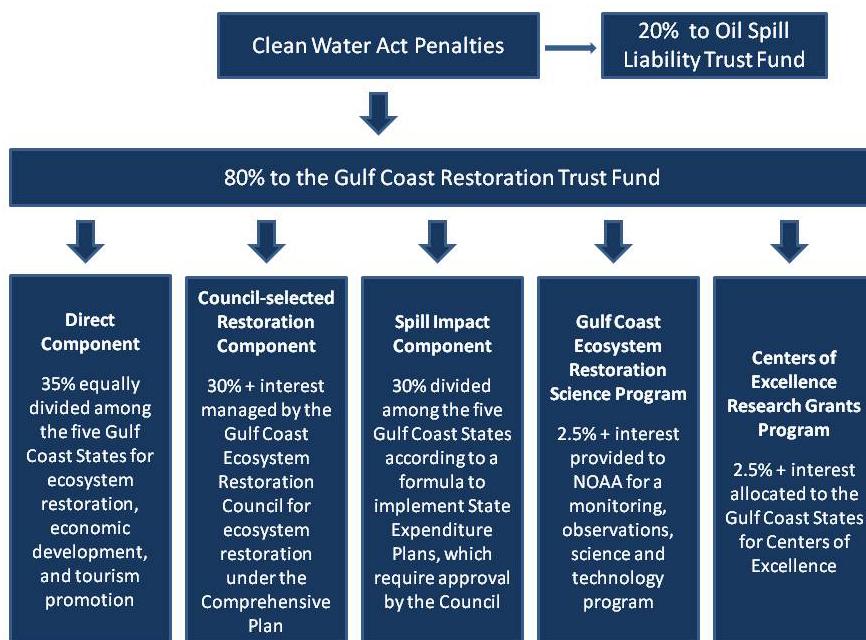
The RESTORE Act

The RESTORE Act makes available 80 percent of Clean Water Act civil penalties paid by the responsible parties for the oil spill (i.e., BP and Transocean) for programs, projects, and activities that restore and protect the environment and economy of the Gulf Coast through the Gulf Coast Restoration Trust Fund. Within the RESTORE Act, there are five funding components (or “buckets”), which make funds available to each of the states in accordance with certain legal parameters:

- Direct Component (Bucket 1)
- Comprehensive Plan Component (Bucket 2)
- Spill Impact Component (Bucket 3)
- National Oceanic and Atmospheric Administration Science Program (Bucket 4)
- Centers of Excellence Research Grants Program (Bucket 5)

The State of Mississippi is involved in the administration of funds from Buckets 1, 2, 3, and 5. MDEQ works with the U.S. Department of Treasury for Buckets 1 and 5, and the RESTORE Council for Buckets 2 and 3. NOAA administers Bucket 4.

The RESTORE Council, established by the RESTORE Act, develops, and oversees implementation of a comprehensive plan to help restore the ecosystem and economy of the Gulf Coast Region. The RESTORE Council is comprised of governors, or their respective designees, from the five affected Gulf States, the Secretaries from the U.S. Departments of the Interior, Commerce, Agriculture, and Homeland Security as well as the Secretary of the Army and the Administrator of the EPA.



Governor's Gulf Coast Advisory Committee

The Governor's Gulf Coast Advisory Committee was established in 2021 to research and recommend projects to the Governor under the RESTORE Act Direct Component and Spill Impact Component. For 2022, the committee recommended projects for consideration in Amendment 6 to the Multiyear Plan Implementation Plan and State Expenditure Plan.

The committee's seven subcommittee's recommendations resulted in 15 new projects totaling \$51.2 million selected and announced by Governor Reeves in November 2022. The addition of these projects to the projects selected by Governor Reeves brings the total number of projects to 31 totaling \$114 million during this administration.

Direct Component (Bucket 1)

Multiyear Implementation Plan

In May 2023, the U.S. Department of the Treasury accepted Amendment No. 6 to Mississippi's Multiyear Implementation Plan. The MIP describes the projects, programs, and activities for which Mississippi will spend "Bucket 1" funds. The MIP Amendment No. 6 included the following nine updates totaling approximately \$28.9 million of new or additional project funding:

- Planning Assistance – MIP Amendment Development (\$500,000 in additional funding) - The proposed project modification includes an increase in funding for this project to support MDEQ in the development of future MIP amendments and applications.
- Pearl River Community College Workforce Center (\$2,090,000 in additional funding) - The project budget is being modified to increase the Direct Component funding to support the implementation of improvements consistent with the Project Description, Need, Purpose and Objective as accepted in MIP Amendment #2.
- City of Moss Point Interstate 10 Corridor Improvements (\$5,500,000 in additional funding) - The project budget is being modified to increase the Direct Component funding to support implementation of additional infrastructure improvements consistent with the Project Description, Need, Purpose and Objective as accepted in MIP Amendment #5.
- Gulfport-Biloxi Airport Site Mitigation and Improvements (\$2,200,000 in additional funding) - This project description is being modified to include planning activities to support infrastructure improvements to the secondary runway at the Gulfport-Biloxi International Airport (GBIA).
- Washington Avenue Gateway (\$5,500,000 in additional funding) - The project budget is being modified to increase the Direct Component funding to support implementation of additional infrastructure improvements consistent with the Project Description, Need, Purpose and Objective as accepted in MIP Amendment #5.

- Lowrey Island Restoration (\$4,400,000) - This proposed project will support infrastructure benefitting the economy in the Gulf Coast Region through site improvements and construction of a public marina for enhanced public use as well as encouraging economic development.
- Kiln Utility and Fire District Water Infrastructure Expansion Project (\$3,00,000) - This proposed project will support infrastructure benefitting the economy of the Gulf Coast Region by providing needed infrastructure upgrades to support current and future development in the project area.
- Trent Lott International Airport North Apron Expansion (\$2,400,000) - This proposed project will support infrastructure benefitting the economy in the Gulf Coast Region through the construction of a new aircraft parking apron and connector taxiway at the Trent Lott International Airport (TLIA) in Jackson County.
- Port Bienville Railroad Intermodal Expansion (\$3,300,000) - This proposed project will support infrastructure benefitting the economy of the Gulf Coast Region through the construction of a classification yard and an intermodal switch lead at the Port Bienville Railroad (PBVR).
- There are 43 approved projects on the MIP.



In 2015, the RESTORE Council approved the first Funded Priorities List totaling approximately \$156.6 million in restoration activities across the Gulf. In April 2021, the RESTORE Council approved FPL 3b. This allocated an additional \$68.8 million to Mississippi projects. In August of 2021, the initial 2015 Funded Priorities List was amended to authorize the transfer of a previously approved restoration project at Deer Island to MDEQ (\$3 million). MDEQ is in the process of implementing the projects approved on the 2015 FPL and the 2021 FPL 3b.

Spill Impact Component (Bucket 3)

State Expenditure Plan

In May 2023, the RESTORE Council approved Mississippi's State Expenditure Plan Amendment that describes the project, programs, and activities for which the state will spend "Bucket 3" funds. The SEP Amendment included eight updates totaling approximately \$ 22.35 million:

- Compatibility, Coordination, and Restoration Planning (\$500,000 in additional funding) – This project will continue to provide planning assistance to support MDEQ's coordinated restoration planning efforts and to support the development of new and/or amended State Expenditure Plans.
- Harbor Expansion Parking Area (Jones Park) (\$1,650,000) - This project will support infrastructure benefitting the economy in the Gulf Coast Region through the expansion of parking along the eastern edge of Jones Park in Gulfport.
- Walter Anderson Museum of Art Creative Complex (\$1,210,000) - This project will support the promotion of tourism in the Gulf Coast Region through the construction of features within the Creative Complex at the Walter Anderson Museum of Art.
- Workforce Training – Meeting the Needs of the Supply Chain (\$5,500,000) - This project will support workforce development and job creation in the Gulf Coast Region through the development of training programs to address workforce needs that are vital to meeting the supply chain needs of coastal Mississippi's industries.
- Health Professions (HEALP) for Our Community: Health Professions Center of Excellence (\$6,600,000) - This project will support workforce training efforts in the Gulf Coast Region through the development of workforce development programs to address high industry demand for health profession workers in coastal Mississippi.
- Marina at Front Beach (\$5,500,000) - The purpose of the project is to support planning and construction activities for a marina and other amenities in the Front Beach area of Ocean Springs.
- Institute of Marine Mammal Studies Outreach and Ecotourism (\$825,000) - This project will support the promotion of tourism in the Gulf Coast Region through two Institute for Marine Mammal Studies' programs: Ecotourism - Enhancement of IMMS Public Outreach and Education Program and Enhancement of Ocean Adventures Public Outreach and Education Programs. The programs will provide

eco-tourism benefits and environmental and ecosystem education opportunities that will encourage conservation of the Mississippi Sound and its marine life.

- Coastal Science Program for Mississippi High Schools (\$566,500) - This project will support workforce development and job creation in the Gulf Coast Region. The coastal science program, which will be implemented by the Mississippi Department of Marine Resources, is designed to engage high school students in environmental education with hands-on experiences to monitor water quality, raise native wetlands plants in a nursery for use at coastal restoration sites, and grow marine species, including native fish at an aquaculture facility, to be released in local estuarine waters.
- There are currently 23 approved projects/programs for the SEP.



Center of Excellence component (Background)

The Mississippi Based Restore Act Center of Excellence was selected in 2015 as a partnership among Jackson State University, Mississippi State University, the University of Mississippi, and the University of Southern Mississippi focusing on science, technology, and monitoring in the Gulf Coast Region. In 2017, MDEQ executed a sub-award agreement with USM as the lead university for the MBRACE consortium. In the past year, MBRACE concluded research activities under its second Core Research Program (Core 2) which is a continuation of the activities which occurred under Core 1. MBRACE also concluded research through projects which were competitively selected among researchers from all member universities.

In April 2023, the initial MBRACE grant (MBRACE I) reached the end of its period of performance. Close out activities for MBRACE I are underway. Concurrently, a subsequent MBRACE grant (MBRACE II) was applied for and received from the U.S. Department of the Treasury. MBRACE II began on May 1, 2023. Since the start of MBRACE II, MBRACE's Executive Steering Committee (ESC) has completed its selection process for MBRACE's next round of Core and Competitive research projects. Research through these projects is anticipated to begin in the upcoming months.

National Fish and Wildlife Foundation

Mississippi will benefit from \$356 million as a result of the Clean Water Act criminal settlements resulting from the oil spill. The National Fish and Wildlife Foundation administers these funds through the Gulf Environmental Benefit Fund. NFWF-GEBF has awarded grants for 34 projects in Mississippi with a total of approximately \$207 million. The board approved two new projects for 2023:

- Wolf River Headwaters Acquisition (\$15.1 million)-This project will acquire and permanently protect over 14,000 acres along the Wolf River and its headwaters. Acquiring this significant acreage will close large gaps between existing conservation areas and enhance and protect water quality in St. Louis Bay.
- Habitat Restoration: Federal Lands Phase II (\$1.5 million)- In 2015, the GEBF funded the first phase of the Habitat Restoration on Federal Lands Program as part of a broader strategy to improve coastal habitats across federal lands, state parks, and wildlife management areas in Mississippi. Funding for phase two will focus on continued habitat restoration efforts and management needs within the Gulf Islands National Seashore (GUIS).

NFWF-GEBF has awarded grants for 34 projects in Mississippi with a total of approximately \$207 million.

Natural Resource Damage Assessment

The Deepwater Horizon Natural Resource Damage Assessment (NRDA) is the legal process for developing the public's claim for natural resource damages against the party or parties responsible for injuries to those resources and the services they provide. The NRDA settlement allocation for Mississippi is approximately \$296 million.

Early Restoration

In 2011, BP agreed to provide up to \$1 billion toward Early Restoration projects to partially address injuries to natural resources caused by the oil spill. This agreement, "Framework for Early Restoration Addressing Injuries Resulting from the Deepwater Horizon Oil Spill," represented a preliminary step toward the restoration of injured natural resources and was intended to expedite the start of restoration in advance of the completion of the injury assessment process. Under this agreement, DOI, NOAA, and the Gulf states each received up to \$100 million to implement early restoration projects. The remaining \$300 million was allocated by NOAA and DOI for early restoration projects proposed by state trustees.

- Phase I (\$13.6 million) – Mississippi's projects from Phase I included the laying of approximately 1,400 acres of oyster cultch in the Mississippi Sound and a near shore artificial reef enhancement project. Construction activities and monitoring activities for both projects are complete.
- Phase II: There were no Phase II projects for Mississippi.
- Phase III: Mississippi has four Phase III projects (\$68.95 million)
 - Hancock County Marsh Living Shoreline (\$50 million) – Construction of six miles of breakwaters that will develop into living reefs. Benefits include reduction of erosion, re-establishment of oyster habitat, and enhanced fisheries resources and marsh habitat. Approximately 46 acres of marsh has been constructed in 2020-2021 to protect and enhance the existing shoreline near Heron Bay. In addition, 46 acres of sub-tidal oyster reef were created in Heron Bay to protect the shallow bay and increase oyster production in the area. Construction activities began in 2016 and were completed in late spring of 2021. MDEQ and NOAA are implementing trustees.
 - Restoration Initiative at the INFINITY Science Center (\$10.4 million) – INFINITY is an interactive science research, education, and interpretive center located in Hancock County with funding used for visitors' access to coastal natural resources. Completed in 2018, enhancements include the Possum Walk Heritage Trail and associated electric tram tour, the Biome Boardwalk showcasing natural habitats of native landscaping, construction of a new 3-D Theater, refurbishment of the Xsphere theater, and the construction of 11 new science exhibits.
 - Popp's Ferry Causeway Park (\$4.7 million) – This project in Harrison County included construction of an interpretive center, nature trails, boardwalks, fishing piers, bait shop, kayak launch, and other recreational enhancements.

- Pascagoula Beachfront Promenade (\$3.8 million) – Funds were used to complete a two-mile, ten-foot-wide lighted concrete pathway complete with amenities along Pascagoula beach.
- Phase IV Project
 - Restoring Living Shorelines and Reefs in Mississippi Estuaries (\$30 million) – This project includes restoration of intertidal and subtidal reefs and the use of living shoreline techniques including breakwaters. Projects have been implemented at Deer Island and Grand Bay and Graveline Bay. The project builds on recent collaborative projects implemented by MDMR, NOAA, and The Nature Conservancy (TNC). Over time, the breakwaters, intertidal, and subtidal restoration areas will develop into living reefs that support benthic secondary productivity and breakwaters will reduce shoreline erosion and marsh loss. There will be an additional component to this project added in 2022-2023, St. Louis Bay Living Shoreline.

Post-Settlement NRDA Restoration

As part of the settlement with BP in 2016, the court approved a consent decree outlining the framework for the restoration of natural resource damages across the Gulf. The DWH Trustee Council completed the Final Programmatic Damage Assessment and Restoration Plan and Programmatic Environmental Impact Statement which includes an assessment of the injury to and the framework to restore injured natural resources. The NRDA settlement, including early restoration, totals \$296 million for Mississippi projects for the following restoration types:



- Wetlands, Coastal and Nearshore Habitats
- Habitat projects on Federally Managed Lands
- Nutrient Reduction (Nonpoint Source)
- Sea Turtles
- Marine Mammals
- Birds
- Oysters
- Provide and Enhance Recreational Opportunities
- Monitoring and Adaptive Management

The Mississippi Trustee Implementation Group is responsible for restoring the natural resources and services in Mississippi and is comprised of MDEQ, NOAA, DOI, USDA, and EPA. The MS TIG identifies restoration projects, develops draft and final restoration plans, and implements specific restoration actions that are consistent with the PDARP/PEIS. Proposed restoration projects and relevant restoration plans must be consistent with the Consent Decree, Oil Pollution Act, NRDA regulations, and Trustee Council governing documents. The Trustees ensure that the public is involved through public noticing of proposed restoration plans, public comment, and consideration of comments received.

MS TIG Restoration Plan 1

The first plan developed by the MS TIG was released in June 2017, and includes the following three projects currently being implemented:

- Graveline Bay Land Acquisition and Management Project (\$11.5 million) – The project includes acquisition, preservation, and habitat management in the Graveline Bay Coastal Preserve. MDEQ and the DOI are Implementing Trustees for the project working with MDMR as a project partner to preserve and enhance up to 1,410 acres of habitat. Priority tracts have been identified and landowner conversations are being initiated.
- Grand Bay Land Acquisition and Habitat Management Project (\$16 million) - This project will result in a combination of acquisition and habitat management within the Grand Bay National Wildlife Refuge, Grand Bay National Estuarine Research Reserve, and Grand Bay Savanna Coastal Preserve. MDEQ and the DOI are Implementing Trustees with MDMR and the U.S. Fish and Wildlife Service as project partners. The project includes preservation of up to 8,500 acres and enhancement of up to 17,500 acres of habitat. In 2018, over 1,500 acres were acquired and will be jointly managed by staff at the Grand Bay National Estuarine Research Reserve/Grand Bay National Wildlife Refuge. In 2020, approximately seven additional acres were acquired.
- Upper Pascagoula River Water Quality Enhancement Project (\$4 million) - The project includes development and implementation of conservation plans to reduce nutrient and sediment contributions in the watershed. The USDA, EPA, and MDEQ are Implementing Trustees for the project which includes an extensive outreach program to landowners. Conservation practices will be planned and implemented on properties throughout the watershed with emphasis given to properties bordering rivers and streams.



Mississippi TIG Restoration Plan II

The second plan developed by the MS TIG was released in September 2020 and includes the following proposed projects. Implementation of the projects began in 2022.

- Oyster Spawning Reefs in Mississippi (\$10 million) - The project will restore or create a minimum of 100 acres and a maximum of 400+ acres of high-relief cultch placements in up to six locations in the Mississippi Sound and areas including St. Louis Bay, Heron Bay, Back Bay/Biloxi Bay, Graveline Bay, Pascagoula Bay, and Grand Bay. This project includes the possibility of placement of more than 400 acres where it is feasible.
- Mississippi Oyster Gardening Program (\$500,000) - The project will be implemented over a five-year period and is continuation of the current NFWF-GEBF funded project in which volunteers grow sub-adult oysters from spat on shell stock in gardens that hang from waterfront piers, wharves, and docks.
- Wolf River Coastal Preserve Habitat Management (Dupont Tract and Bell's Ferry Tract (\$3.13 million) - The project will restore ecologically connected coastal habitats adjacent to St. Louis Bay and benefit habitats ranging from salt marshes to coastal freshwater wetlands to upland buffer communities. Habitat management will occur within 2,500 acres of the Wolf River Coastal Preserve.
- Hancock County Coastal Preserve Habitat Management – Wachovia Tract (\$1.76 million) - The project will restore ecologically-connected coastal habitats by providing habitat management to pine flatwoods as well as freshwater and brackish marsh within the existing 1,203-acre project area.



Restoration Plan III

The third plan developed by the MS TIG was released in 2021 and included the following projects. The implementation of these projects began in 2023.

- Improve Native Habitats on Federally Managed Lands (\$3 million) – This project will target site-specific debris removal activities on the Mississippi Barrier Islands managed by the National Park Service's Gulf Islands National Seashore.
- Maintaining Enhanced Sea Turtle Stranding Network Capacity and Diagnostic Capabilities (\$2.5 million) – This project will increase sea turtle survival through enhanced mortality and early detection of and response to anthropogenic threats and emergency events along the Mississippi coastal waters, adjacent bays, and estuaries in the Mississippi Restoration Area.
- Maintaining Enhanced Marine Mammal Stranding Network Capacity and Diagnostic Capabilities (\$2.3 million) – This project will occur in Mississippi coastal waters, adjacent bays and estuaries in the Mississippi Restoration Area by increasing marine mammal survival through a better understanding of causes of illness and death, as well as early detection and intervention for anthropogenic and natural threats.
- Reduction of Marine Mammal Fisher Interactions through Trawl Technique and component Material Improvements (\$3.1 million) - This project will help reduce commercial fishery bycatch through collaborative partnerships in the Mississippi coastal waters.
- Bird Stewardship and Enhanced Monitoring in Mississippi (\$6.1 million) – This project will help restore and conserve bird nesting and foraging habitats by enhancing vegetation management and improving nesting and foraging along the mainland beaches and coastal islands off the Mississippi coast and Mississippi Barrier Islands.
- Clower-Thornton Nature Trail Improvement (\$630,000) – This project will enhance public access to natural resources for recreational use at the Clower Thornton Nature Trail. This site is a favorite site for coastal bird watchers, with more than 200 species recorded on the property.
- Environmental Education and Stewardship at Walter Anderson Museum of Art (\$1.4 million) – This project will create and enhance natural resource education facilities, particularly the Creative Complex, and education programs at the Walter Museum Anderson Museum of Art.



EMERGENCY RESPONSE



EMERGENCY RESPONSE

Fiscal Year '23 Accomplishment Highlights

Provided statewide emergency response coordination on a 365-day, 24/7 basis.

Handled approximately 925 calls for assistance, involving expenditures of \$100,000 from the Pollution Emergency Fund.



The Emergency Response Division responds to emergencies involving hazardous materials, oil spills, or any pollutant that poses a threat to human health or the environment. The Emergency Response staff handled approximately 925 calls for assistance in Fiscal Year 2023. Contractor expenditures for response actions totaled \$100,000, and the agency was able to recover approximately \$16,250 from responsible parties.

MDEQ and the Mississippi Emergency Management Agency work together to provide effective around-the-clock spill response. MEMA is notified of emergencies, and they, in turn, contact MDEQ personnel who provide on-site response and technical assistance.

Emergency Objective:
Maintain staff that is adequately trained and equipped to conduct an environmental emergency response.



MDEQ maintains the resources and readiness to support local emergency response personnel and communities when an environmental or public health emergency occurs quickly and effectively. This readiness is accomplished by training alongside regional response teams, and state agencies such as MEMA, the Mississippi State Department of Health, the Mississippi Department of Public Safety, and federal agencies such as EPA, the Department of Defense, U.S. Department of Homeland Security, and the Federal Emergency Management Agency. Additionally, MDEQ maintains expertise in handling hazardous, radioactive materials, and biohazard emergencies by participating in advanced-level courses and exercises.

MDEQ maintains the resources and readiness to support local emergency response personnel and communities when an environmental or public health emergency occurs quickly and effectively.



Emergency Preparedness and Response Strategic Goal: Prevent, prepare for, and respond to public health, safety, and environmental emergencies.



POLLUTION CONTROL

Air Quality, Waste, Water Quality & Remediation

AIR DIVISION

Fiscal Year '23 Accomplishment Highlights

Modernized the Title V Program fee structure to fund the program more equitably and adequately.

Attained all National Ambient Air Quality Standards throughout the state.

Applied for and received federal grants to update Mississippi's air monitoring network, conduct a local air monitoring study in Mississippi's most industrialized county, and identify projects and programs to reduce the State's carbon emissions while enhancing carbon sinks.

Ambient Air Quality

The U.S. Environmental Protection Agency is required by the federal Clean Air Act to set National Ambient Air Quality Standards for certain pollutants considered to be "criteria" air pollutants. EPA conducts periodic reviews of the standards, and the science upon which they are based, and revises the standards when appropriate. EPA uses the data collected by air monitoring networks to help determine whether areas are meeting the NAAQS.

MDEQ operates a continuous, statewide ambient air monitoring network of sites with both fully automated analyzers and 24-hour manual samplers for measuring air quality.

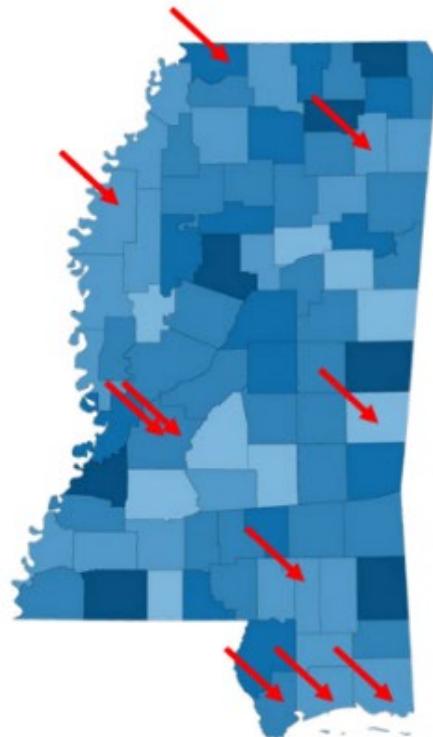
This monitoring network serves many purposes:

- Determines if areas are meeting the NAAQS for ground-level ozone (O₃), particulate matter (PM), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and carbon monoxide (CO)
- Generates data to assist in determining methods to reduce visibility impairments
- Supports ozone reduction programs
- Determines general air quality trends

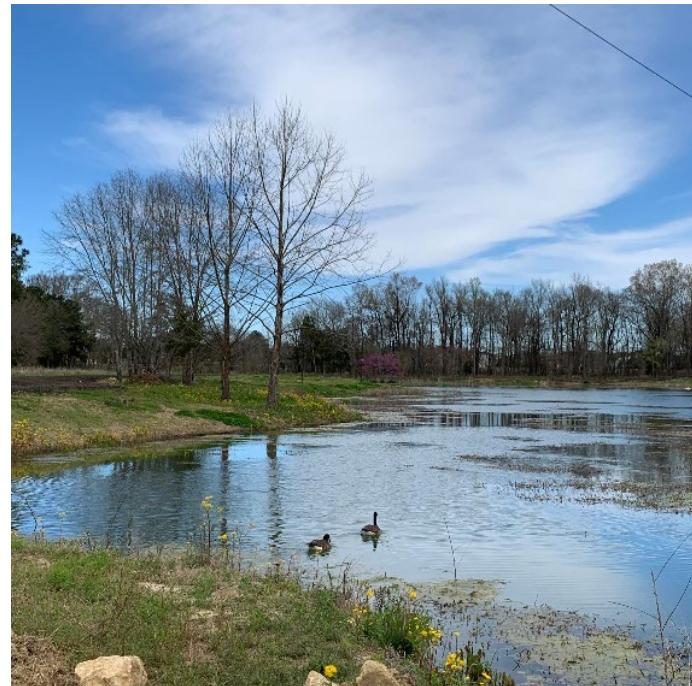
Air Quality Goal:
Ensure that Mississippi air quality
is protective of the health and welfare of its citizens.

Monitor Locations and Pollutants Measured

Cleveland – Ozone, $PM_{2.5}$
Gulfport - Ozone, $PM_{2.5}$
Hattiesburg – $PM_{2.5}$
Hernando - Ozone, $PM_{2.5}$
Jackson - Ozone, $PM_{2.5}$
Jackson (N-Core) - Ozone, $PM_{2.5}$, PM_{10} , CO, NO, SO_2
Meridian - Ozone
Pascagoula - Ozone, $PM_{2.5}$, CO, NO, NO_2 , NO_x , SO_2
Tupelo - Ozone
Waveland - Ozone, $PM_{2.5}$



Air Quality Objective:
Maintain Compliance with
Federal Air Quality Standards.



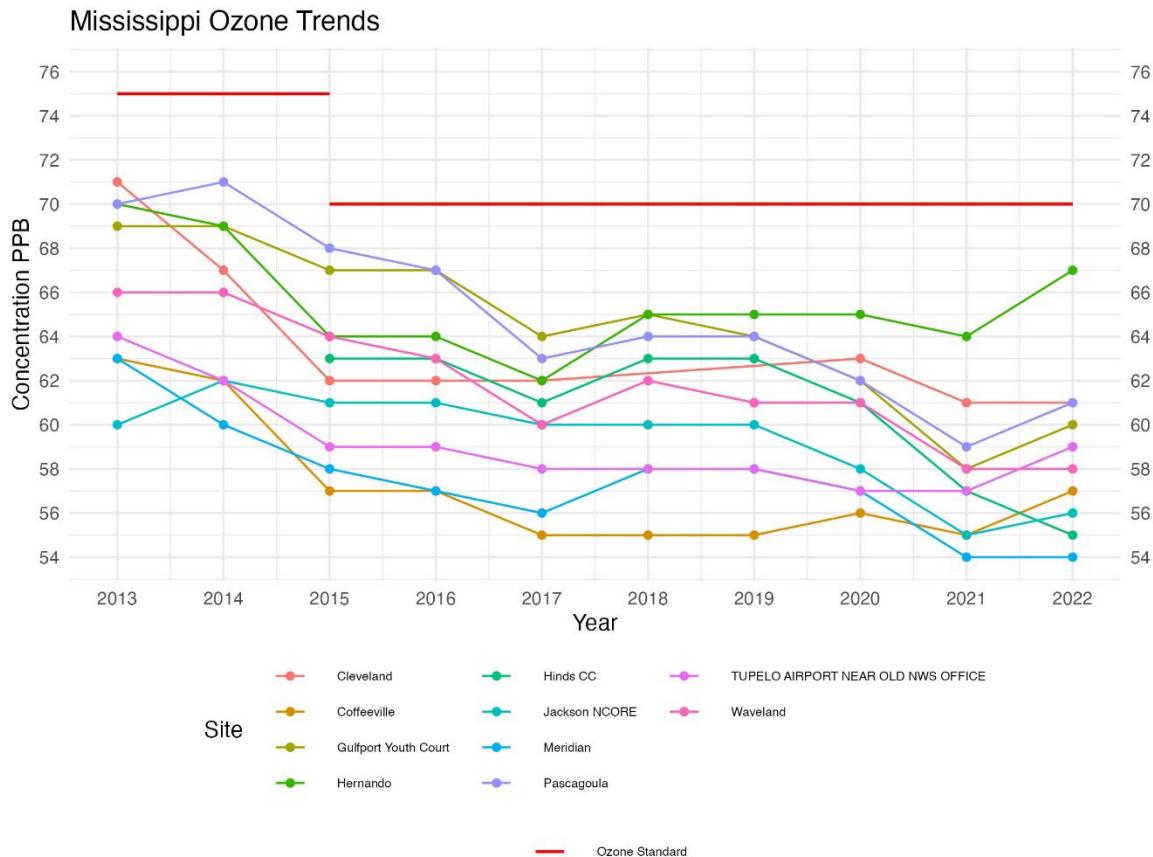
EPA began setting NAAQS for the criteria air pollutants over 50 years ago and has subsequently reviewed them many times over the years. EPA has chosen to retain the original CO standard and has only revised the NO₂ standard once, in 2010. EPA considers all Mississippi counties as attaining the current NO₂ and CO standards and has designated them as such. EPA made significant changes to the SO₂ standards in 2010, lowered the annual PM_{2.5} standard in 2012, and lowered the ozone standard in 2015. The PM_{2.5}, ozone, and lead standards are currently undergoing another review by EPA.

To address the primary SO₂ standard revised in 2010, MDEQ worked in cooperation with affected facilities over the next seven years to achieve attainment designations. MDEQ has continued to work with these facilities to provide EPA with the information required annually by EPA's Data Requirements Rule for the SO₂ standard, to demonstrate these areas continue to attain the standard. During Fiscal Year 2023, MDEQ requested EPA terminate the data requirements for one facility in Lamar County (i.e., the R.D. Morrow Senior Generating Plant operated by Cooperative Energy). There is also a secondary SO₂ standard, which EPA has retained for many years now and Mississippi continues to attain that standard.

EPA has both primary and secondary 24-hr and annual standards for very fine particulate matter, or PM_{2.5}, and primary and secondary 24-hr standards for PM₁₀. Mississippi is meeting these standards and has been designated as such by EPA.

Emissions reductions in Mississippi and surrounding states, as well as favorable meteorological conditions, resulted in downward trends in ozone concentrations over the last decade, as can be seen in the following graph. These downward trends allowed EPA to designate Mississippi as attaining the current ozone standards set in 2015. MDEQ participates in a voluntary ozone-precursor reduction program in partnership with local governments and business leaders on the Mississippi Gulf Coast and in DeSoto County aimed at preventing future nonattainment of ozone standards. Both the primary and secondary ozone standards are currently under review by EPA.

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In Fiscal Year 2023, MDEQ continued to work with EPA to get mandated, long-term planning documents, known as State Implementation Plans, in place and approved. These plans demonstrate Mississippi's commitment and ability, through our regulatory infrastructure, to continue meeting all NAAQS in every county of the state, while also minimizing our contribution to the interstate transport of pollution. While EPA has recently asserted itself in an attempt to take control of planning efforts associated with the 2015 ozone NAAQS in many states across the country, including Mississippi, MDEQ continues to work to develop approvable plans to keep Mississippi as the lead in these planning efforts.

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Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health warnings of emergency conditions. The entire population is more likely to be affected.
Hazardous	301 to 500	Health alert: everyone may experience more serious health effects

To inform the public regarding ambient air quality across the state, MDEQ issues daily air quality forecasts using EPA's Air Quality Index (shown left) for both ozone and particle pollution for DeSoto County, the Jackson Metropolitan Area, and the Mississippi Gulf Coast from March through October each year. MDEQ makes these forecasts available through e-mail, the MDEQ website, and Twitter. MDEQ uses the forecasts to keep the public informed about the status of air quality, to issue health advisories, and to notify the members of ozone reduction programs to implement mitigating actions.

Regional Haze Planning

Mississippi is working with nine other southeastern states and tribal associations known as the Visibility Improvement State and Tribal Associations of the Southeast to address EPA's Regional Haze Rule. MDEQ staff participates with the VISTAS group to analyze air emissions impacts on visibility (or haze) in federal Class I areas in the southeast. Although Mississippi does not have any designated federal Class 1 areas, the Breton Wilderness Area (Chandeleur Islands) in Louisiana and the Sipsey Wilderness Area in northern Alabama are close enough to Mississippi that air emissions from sources in Mississippi must be evaluated for visibility impacts. While past years' efforts were focused on developing the modeling necessary to identify sources to be included in Regional Haze state implementation plans, efforts in Fiscal Year 2023 focused on drafting the Regional Haze SIP for the current (i.e., second) planning period. During Fiscal Year 2023, the draft plan was finalized and reviewed by EPA and the federal land managers and was made available for public comment toward the end of the fiscal year. MDEQ plans to finalize and submit the plan to EPA in Fiscal Year 2024.

Title V Operating Permit Program

The Clean Air Act requires each major source of air pollution to obtain a Title V Operating Permit, which sets out all air requirements applicable to the source and specifies the methods by which the source must demonstrate compliance. Sources subject to the program are required to pay an annual fee to cover the program costs. The MDEQ Environmental Permits Division handles all aspects of Title V permitting, while the MDEQ Environmental Compliance and Enforcement Division handles all compliance certifications and demonstrations. The MDEQ Air Division is responsible for managing the fee portion of the Title V program for the approximately 250 sources in the state.

Mississippi law requires the establishment of the Title V Advisory Council to evaluate the costs of the program, to recommend an equitable fee system, and to conduct an annual program review that establishes an appropriate fee for the upcoming fee year. MDEQ staff meets quarterly with the Council to provide updates on Title V program activities. Annually, the Air Division staff develops a work plan for the upcoming year that includes all functional areas of the Title V program. During that time, staff compiles data on projected and actual program revenue, expenditures, and pollutant emission rates. Air Division staff reports this information to the Council to aid in their annual review and evaluation of the program to determine an adequate annual fee. MDEQ staff then reports the results of the Council's annual review and fee recommendation to the Commission on Environmental Quality. The Commission considers the recommendation and sets the Title V program fee for the upcoming fee year.

Recently, the Council determined that the fee system established in 1995 was no longer equitable or adequate based on their evaluation of the needs and costs of the program and sought to identify a more appropriate fee system. In Fiscal Year 2021, MDEQ staff worked with the Council to develop a new fee system and draft revised regulations necessary to implement such a change. During Fiscal Year 2023, MDEQ officially adopted the new fee system after appropriate notice and extensive outreach to Title V sources and the public regarding the proposed changes. The new fee system became effective in Fiscal Year 2023.

During Fiscal Year 2023, the emissions portion had a fee rate was \$37 per ton of regulated air pollutants and a tiered complexity portion, which generated approximately \$4.34 million for Mississippi's Title V program. There were 61 Title V permits issued, including initial issuances, renewals, and modifications. There was also 1 new Synthetic Minor Operating Permit (issued for a facility that would have otherwise been required to obtain a Title V permit, except that the owner or operator elected to take federally enforceable permit restrictions to limit allowable emissions below Title V major source thresholds). There were 108 Title V inspections conducted.

Air Emissions Inventory

The MDEQ Air Division develops an inventory each year that quantifies air emissions from larger emitting sources. This work involves gathering and validating emissions data from sources and submitting it to EPA. Every third year, EPA requires a much larger, complete inventory of sources which is compiled into the National Emissions Inventory. The complete inventory includes emissions from each emission unit at all major Title V sources, estimated emissions from smaller stationary sources, and emissions from mobile sources. Each inventory quantifies emissions for over 200 air pollutants and includes detailed emission unit information such as control devices, exhaust stack parameters, and fuel type. In January 2023, the Air Emissions Inventory Branch completed and submitted the 2021 emissions inventory. In addition, data for 2022 emissions was requested, and the inventory is being reviewed and compiled for submittal in January 2024. This Branch also began the process of migrating to a new inventory system maintained by EPA which external users can access to enter their emissions information. Implementation of the new system is expected to take place in Fiscal Year 2025.

Mississippi Diesel Emissions Reduction Program

MDEQ utilizes Diesel Emissions Reduction Act grant funds from EPA for the replacement of older diesel school buses with newer and cleaner ones. The DERA-funded Mississippi Diesel School Bus Replacement Program began in 2014 and has since awarded over \$2.4 million to 63 school districts for the purchase and replacement of 145 school buses. In Fiscal Year 2023, after receiving applications from 25 school districts, MDEQ selected 13 school districts to receive \$300,209 to help replace 13 school buses.

Asbestos

State regulations require affected facilities to inspect for asbestos before any demolition or renovation work begins and to specify work practices and procedures to prevent asbestos fiber emissions during such activities. MDEQ assists project owners and operators in understanding the requirements of the regulations and performs demolition and renovation project inspections to ensure safe and compliant operations. Additionally, MDEQ provides outreach to homeowners, supplying them with information on how to safely manage the possible asbestos hazards of non-regulated demolition or renovation activities.

Each Mississippi school district must address regulatory requirements and asbestos management activities for each school in an asbestos management plan. MDEQ performs asbestos management plan inspections to ensure requirements are being satisfied and plans are protective of students, teachers, and school employees.

MDEQ also ensures, through its asbestos abatement activity certification program, that individuals who engage in asbestos abatement activities receive professional training and demonstrate they are competent to perform these services.

During Fiscal Year 2023, MDEQ inspected 518 demolition and renovation projects, investigated 27 complaints, certified 1558 applicants to perform asbestos activities, and inspected 11 school districts with asbestos management plans.

Air Toxics

The term “air toxics” refers to air pollutants that EPA has listed as Hazardous Air Pollutants. These air pollutants may cause acute or chronic health conditions and are primarily controlled or reduced through regulations called National Emission Standards for Hazardous Air Pollutants. Impacted facilities generally must install additional control equipment, implement work practice standards, and/or change process equipment and materials to reduce HAP emissions. These standards and emission limitations require the maximum achievable control technology at “major” sources of HAP and generally available control technology at smaller “area” sources of HAP to achieve reductions in HAP.

NESHAPs regulate emissions from 174 different source categories at major HAP emitting facilities and 70 source categories at area sources of HAP. The universe of affected facilities is quite large and varied; the affected facilities range from large chemical facilities and petroleum refineries to small dry-cleaning facilities, gasoline stations, and even small auto body repair shops.

Air toxic activities also include the implementation of accidental release prevention regulations. These regulations apply to facilities with certain chemicals that could be very dangerous to public health and the environment in the event of a chemical accident or uncontrolled release. There have been multiple revisions to these regulations in recent years. The frequent changes have resulted from evaluation of chemical accidents, court challenges, and petitions for review. In December 2019, revisions were made to remove or streamline previously added requirements. Under President Biden’s Executive Order, the rule was reviewed and additional proposed revisions were published in August 2023. The final revisions have not yet been published.

The accidental release prevention regulations require facilities with chemicals in amounts above de minimis levels to employ process safety measures and controls and plan for the possibility of an accidental chemical release that could endanger public safety. A regulated facility’s planning and procedures to prevent and mitigate chemical accidents must be outlined in a Risk Management Plan that is submitted for agency review. MDEQ remains

aware of all changes in regulatory requirements, monitors the ever-changing universe of regulated sources, and evaluates each RMP during compliance inspections. During Fiscal Year 2023, there were 144 active regulated facilities, and staff completed 46 compliance inspections.

Greenhouse Gases

On December 7, 2009, the EPA Administrator signed the Endangerment Finding for greenhouse gases from mobile sources. EPA used this finding as the basis to expand its regulatory efforts to regulate large stationary sources of greenhouse gas emissions. Initial regulatory efforts of greenhouse gases included regulations for the power sector, oil and natural gas industries, and landfills. The most significant effort to date has been multiple attempts to regulate existing electric utility generating units at power plants. Although the U.S. Supreme Court ruled in favor of petitioners in the consolidated court challenges of the 2015 Clean Power Plan in *West Virginia v. Environmental Protection Agency*, holding that Congress did not grant EPA authority under Section 111(d) to devise emissions caps based on the generation shifting approach taken in the Clean Power Plan, EPA has yet again proposed to regulate greenhouse gas emissions from new and existing power plants in a proposed rule published on May 23, 2023 (often referred to as the Clean Power Plan version 2). During Fiscal Year 2023, MDEQ reviewed and drafted comments on this proposed rule to support a reasonable approach to the regulation of power plants that takes into consideration both the technical feasibility of the rule as well as impacts to affordability and reliability. Also, on November 11, 2022, EPA proposed to update, strengthen, and expand its regulations on greenhouse gas emissions from both new and existing oil and natural gas operations. Although MDEQ did not have the resources to comment on this proposed rule, MDEQ is monitoring its progress through the rulemaking process and will determine its impact on the State's oil and gas operations when it is finalized.

Lead-Based Paint Program

Mississippi's Lead-based Paint Program is an EPA-approved and delegated state certification program that determines the requirements for certification of persons and firms engaged in lead-based paint activities. It also establishes work practice standards for performing such activities and the procedures and requirements for accreditation of lead-based paint training programs. The regulations are applicable to all persons engaged in lead-based paint abatement and renovation activities in targeted housing and child-occupied facilities.

Volkswagen Environmental Mitigation Trust

In 2017, then-Governor Phil Bryant designated MDEQ as the agency to administer the state's portion of the funds resulting from the Volkswagen Diesel Settlement. The state's allocation is \$9.87 million of the \$2.7 billion Environmental Mitigation Trust Fund. The state's allocation was based on the number of offending vehicles registered in the state. VW established the Fund to settle claims under the Clean Air Act that it sold vehicles with "defeat devices" designed to cheat emissions tests for its diesel vehicles.

Mississippi is using the funds over the next several years to support projects that reduce nitrogen oxide (NOx) emissions from the transportation sector and improve air quality, predominantly through the replacement of older diesel-powered emission sources with cleaner technology and implementation of zero emission vehicle supply equipment projects. MDEQ awards funds in accordance with the Environmental Mitigation Trust Agreement and the state's Beneficiary Mitigation Plan, which was approved by the Fund's Trustee in 2019. In Fiscal Year 2023, after receiving applications from 44 separate entities, MDEQ selected 22 projects for a total of \$7,331,408 in funding. During Fiscal Year 2023, 20 memorandums of agreement were executed between MDEQ and the project awardees, with four projects completed during the fiscal year.



WASTE DIVISION

Fiscal Year '23 Accomplishment Highlights

Reported 5.8 million tons of waste disposed at permitted landfills and rubbish sites.

Collected almost 12,000 pounds of household medical sharps.

Awarded \$3.5 million for solid waste management and recycling projects, solid waste planning projects, and waste tire projects.

MDEQ is responsible for ensuring that solid wastes generated in the state are managed in a manner that is protective of the environment and human health. Solid wastes include all types of garbage, refuse, debris, sludge, or other discarded materials from residential, commercial, industrial, and institutional sources. The Mississippi Legislature has declared it to be the policy of the state that the generation of waste should be reduced or eliminated at the source, whenever feasible; waste that is generated should be recycled or reused, whenever feasible; waste that cannot be reduced or recycled should be treated in an environmentally safe manner; and, disposal or other permitted release into the environment should be employed only as a last resort in an environmentally safe manner. MDEQ regulates the management of solid wastes at storage sites, transfer stations, composting operations, recycling facilities, processing facilities, rubbish sites, landfills, and other types of solid waste facilities.

MDEQ also has delegation from EPA to oversee and implement most of the federal Hazardous Waste Management program in Mississippi for discarded materials that have characteristics that make the waste potentially more dangerous or harmful to human health or the environment if managed improperly. MDEQ also has delegation from EPA to regulate certain waste disposal activities that are conducted through underground injection control wells.

Waste Management Strategic Goal:
Protect Mississippi's soil and water
resources through proper
nonhazardous solid waste and
hazardous solid waste management.



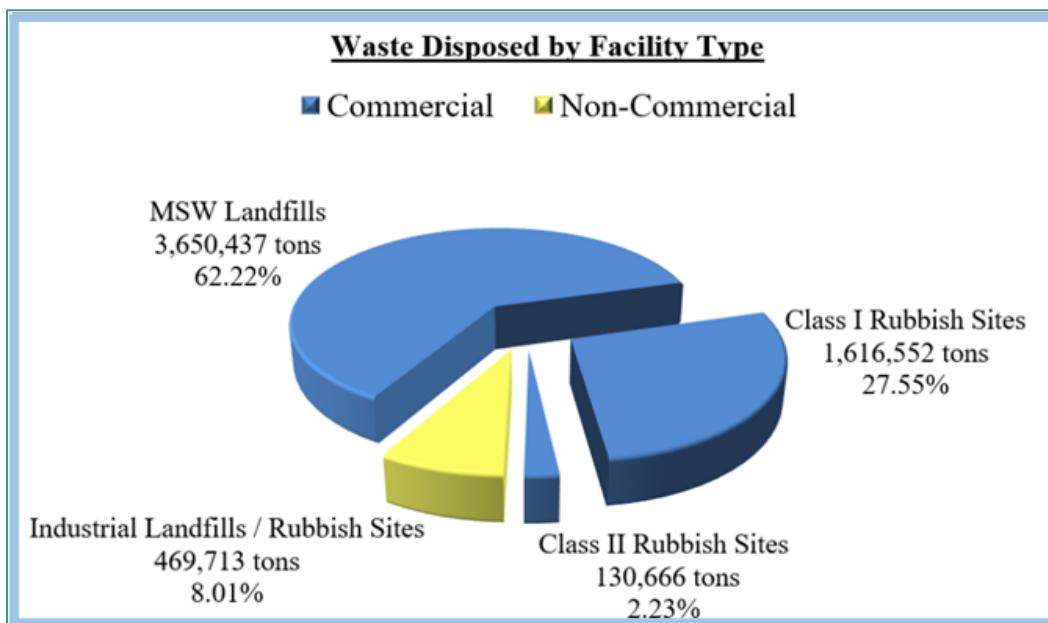
Mississippi Solid Waste Management and Disposal

MDEQ's Nonhazardous Solid Waste programs ensure the proper management of solid wastes, promote the reduction and recycling of solid wastes, and plan for future solid waste management needs.

In early 2023, MDEQ collected annual reports from facility owners for the solid waste management activities conducted. These reports indicate that just over 5.8 million tons of wastes were disposed at permitted landfills and rubbish sites in Calendar Year 2022. Approximately 5.4 million tons were disposed at commercial facilities with over 3.6 million tons (68 percent) disposed at commercial landfills and approximately 1.7 million tons (32 percent) at commercial rubbish sites. Approximately 469,713 tons of the total wastes were disposed at non-commercial disposal facilities. Solid waste disposal facilities received just over 1.2 million tons of waste from out-of-state sources representing approximately 21 percent of the total waste disposed at solid waste disposal facilities.

In addition, a total of approximately 15,000 dry tons of wastes were applied at permitted land application sites in Calendar Year 2022, and nearly 60,000 tons of material were received at solid waste composting and mulching facilities. The Calendar Year 2022 annual reports also indicate that nearly 99,000 tons of material was received for management at solid waste processing facilities and nearly 939,000 tons of wastes was managed by solid waste transfer stations.

MDEQ has continued utilizing the Re-TRAC Connect Software platform to collect solid waste annual reporting information, and the agency has mandated that all annual reports be submitted electronically. MDEQ has assisted solid waste facility operators in getting registered and set up to file the electronic annual reports and will continue to assist any operator with these new requirements.



Recycling and Waste Reduction

Mississippi's recycling programs and the recycling industry have continued to experience challenges due to supply chain problems and the ongoing unpredictability of international market conditions. Many local governments in Mississippi and across the nation have made difficult decisions to cut or reduce services such as recycling. The impact has also been evident as well in material recovery facilities in Mississippi and neighboring states. MRF facilities continue to experience difficulty marketing some materials as manufacturing activity has slowed in some sectors. Despite these challenges, MDEQ has continued to work to promote and sustain recycling in the anticipation that the demand for recyclables will improve. This past year has shown marked improvements as the demand for materials has increased with development. The market value of materials such as cardboard, mixed paper, and #1 and #2 plastics have seen increases. In addition, Fortune 500 companies have continued to invest in the U.S. recycling infrastructure.

In the past Fiscal Year, MDEQ's Recycling Program continued the Statewide Recycling Reporting and Measurement Program implemented in 2019. Mississippi state law sets a waste reduction goal of 25 percent for the state, and mandates that local governments develop and implement a waste reduction strategy as a part of local solid waste plans. Historically, Mississippi has had no formal means of measuring recycling rates; however, with this measurement program, MDEQ is beginning to collect solid waste and recycling data from local governments. As participation in the program grows, this data will be used to measure the state's progress toward reaching the 25 percent waste reduction goal. In addition, these local governments will have information and tools to determine the success of their recycling programs and to build more sustainable and efficient solid waste and recycling services for their citizens.

These recycling data collection efforts continue to be conducted on a voluntary basis with plans to transition towards more formal reporting of recycling program information. In gathering this data, MDEQ has continued a partnership with Emerge Knowledge Design, Inc. and The Recycling Partnership to employ the Municipal Measurement Program, an electronic reporting system. The MMP is provided through the Re-TRAC Connect Software platform and was launched in 2019 and provides a convenient fit for Mississippi's reporting needs. This year, MDEQ again reached out to those cities and counties which are known to have active recycling programs. However, participation in the measurement program decreased from last fiscal year with only a handful of communities entering calendar year 2022 data.

Given the ongoing supply chain problems and challenging market conditions, Mississippi has experienced a decline in the number of active, local recycling programs as well as active

recycling businesses over the past few years. These reductions in recycling services have contributed to a reduction in the percentage of the population that has access to community recycling programs. The most recent rate has been approximated at around 55 percent of the state's population, and of this 55 percent, approximately half of the residents with recycling access are provided curbside recycling services with the remaining half having access to drop-off recycling services. The portion of the state's population that does not have access to community-based programs may have some alternative access to recycling through commercial recycling businesses, non-profit recycling programs, or other organizations. For example, in recent years a number of subscription curbside recycling services have been started in various areas of Mississippi. The types of materials and frequency at which these items are collected vary slightly depending on the company, the area of operation, and customer preferences.

MDEQ has continued to promote local government recycling programs and encourage cooperative efforts among local governments to collect, process, and market recyclables. During Fiscal Year 2023, the Waste Division continued working towards the development and release of a new Funding Opportunity Announcement for a second round of grant funding under the Regional Recycling Cooperative Grants program. Grant funding in excess of \$1 million was previously awarded in 2014 to local, cooperative recycling efforts led by the Cities of Oxford, McComb, Greenwood, and Natchez. These MDEQ recycling grants helped to develop new and upgrade existing local recycling programs. MDEQ anticipates a new FOA could be released in Fiscal Year 2024.

Also, the Mississippi Department of Environmental Quality recently applied for funding through the U.S. Environmental Protection Agency Solid Waste Infrastructure for Recycling Grant Program under the State and Territories category. The purpose of this portion is to provide states with funding to support long-term solid waste planning and data collection efforts to improve post-consumer materials management programs. After following the guidelines and requirements set forth by the federal government and the EPA, MDEQ's Waste Division staff submitted an application laying out plans to conduct a study of the state's recycling industry, local government programs, current and future economic impacts of recycling, and how recycling and material recovery could be advanced in the state. In September of 2023, MDEQ was awarded a grant for over \$592,000. In addition to conducting a study on how we can improve recycling in the state, MDEQ's plan also includes evaluating the results of the study, engaging with stakeholders, identifying the best ways to implement the study recommendations, and beginning implementation of plans to advance post-consumer materials management. MDEQ hopes to work with our sister state agencies, state and regional non-profit organizations, local governments, various media outlets and recycling businesses and industries in conducting the activities proposed by the study. As a result, our goal is to attract more recycling businesses, processors, and end users to our state

to increase recycling and material recovery and boost Mississippi's economy.

In addition, MDEQ has continued to encourage public participation in local recycling programs by expanding information available to the public on how, where, and what they can recycle in their community. The State Recycling Directory on the MDEQ website identifies local governments, businesses, institutions and other organizations that provide recycling services to the public for paper, plastics, metals and glass. The information in the directory is periodically updated to address changes, new recycling opportunities, special waste recycling services and other materials that may not be collected through the traditional recycling programs.

MDEQ also provides an updated listing of materials recovery facilities in Mississippi and adjacent states to provide local governments with information on the best available options for managing recyclables. MDEQ is also developing a new recycling transfer station guidance document to provide information on facilities for managing and improving the collection and transport of recyclables to receiving MRFs and end-users.

MDEQ has also continued to lead by example with its agency recycling program updating and promoting the internal office recycling program to make recycling as convenient as possible for employees. These improvements ensure both increased quantity and quality of recyclables. The program is promoted through recycling signage and guidance throughout MDEQ's facilities and through various employee meetings and new employee orientation activities. MDEQ uses its recycling program to promote and encourage other state agencies to enhance or revive their recycling programs and is available to assist them.

The Waste Division also works with various external partners to provide education and outreach on the importance of sustaining and growing recycling in Mississippi and provides training and technical resources to recycling professionals. One of the agency's key partners is the Mississippi Recycling Coalition, a non-profit consortium of local governments, state agencies, industries, institutions, businesses, trade organizations and non-profit groups working together to promote and grow recycling. Other partners include Keep Mississippi Beautiful and its local affiliates, the Mississippi Beverage Association, the Mississippi Municipal League, the Southeast Recycling Development Council, the Mississippi Manufacturers Association and various other local, state, regional and national organizations.

MDEQ has continued to encourage public participation in local recycling programs by expanding information available to the public on how, where, and what they can recycle in their community.



Solid Waste and Waste Tire Grants Programs

The Waste Division manages various solid waste and waste tire assistance grant programs. MDEQ awarded \$3.5 million in Fiscal Year 2023 for solid waste management and recycling projects, solid waste planning projects, and waste tire projects. Of that total, over \$2.5 million was awarded in Solid Waste Assistance Grants to local governments for projects that involved clean-up of illegal dumps, establishment of collection programs for bulky wastes and recyclables, funding support for employing local solid waste enforcement officers, provision of household hazardous collection programs, conducting public information efforts on solid waste and recycling programs, and various other local waste management projects. These funds are annually awarded through two different categories of grants: the non-competitive (or allocated) grants to county governments and the competitive grants available to municipalities, counties, solid waste authorities, solid waste districts, and other local government organizations. These grant awards included supplemental solid waste enforcement officer grant funds awarded to communities that have maintained successful illegal dumping prevention and enforcement programs.

Grant Awards for Fiscal Year 2023

- 64 counties were awarded a total of over \$1.5 million through the non-competitive (or allocated) solid waste assistance grants program.
- 23 additional local governments, including municipalities, counties, and solid waste authorities, were awarded a total of \$968,947 in competitive SWAG grant funds.
- 18 local governments were awarded \$946,003 in waste tire assistance grants.
- One local government was awarded a total of \$31,875 to fund efforts to develop an updated, local comprehensive solid waste management plan.

Solid Waste Planning

The Solid Waste Program works with local governments to develop and implement long-range local solid waste management plans. Each local government is required by state law to develop and implement these comprehensive local, solid waste management plans for a 20-year period. Many of these plans have reached the end-of-life and have been or are in the process of being updated.

During Fiscal Year 2023, MDEQ continued to review drafts of new or comprehensively updated plans for the Golden Triangle Solid Waste Management Authority and the Northeast Mississippi Regional Solid Waste Management Authority as well as the counties of Coahoma, Grenada, Hancock, Holmes, Lamar, Lauderdale, Leflore, Marion, Pearl River, Tunica, and Warren as well as the cities of Jackson and Ridgeland with several plans expected to be finalized for Commission approval in Fiscal Year 2024. In addition, efforts to comprehensively update solid waste plans were initiated for Yazoo County and the Three Rivers Solid Waste Management Authority with several other local governments preparing to initiate their comprehensive plan updates in Fiscal Year 2024.

Local governments also made decisions in Fiscal Year 2023 to significantly alter or modify their plans to add new facilities or to alter the direction of programs and services. MDEQ reviewed the modifications to these existing local plans to assure adequate disposal services and capacity and consistency with state law. Local governments that completed modifications in Fiscal Year 2023 include Pearl River County, Tate County, the City of Jackson, and the Three Rivers Solid Waste Management Authority. Additionally, MDEQ is continuing review of requests for plan modifications for the counties of Harrison, Lawrence, Rankin, Scott, and Tallahatchie as well as the Three Rivers Solid Waste Management Authority.



Waste Tire Management Program

The Waste Tire Management Program develops, implements, and promotes the state's strategy to recycle waste tires. The program's success has historically been reflected in an overall waste tire recycling rate of approximately 90 percent for all tires collected for processing as compared to the national average of approximately 81 percent. Attributable to a combination of challenging market conditions, increasing processing fees, and processing facility mechanical issues, the past few years has seen a significant increase in the amount of processed tires being landfilled. Consequently, in Fiscal Year 2023, only about 30 percent of all tires collected for processing in Mississippi were ultimately recycled. As markets settle and as additional processing capacity is permitted in Mississippi, MDEQ anticipates seeing the state waste tire recycling rate normalize starting in Fiscal Year 2024. Overall, waste tire processors managed approximately 5.6 million waste tire equivalents with approximately 50 percent of the tires being imported from out-of-state sources during Calendar Year 2022.

The state's network of waste tire transporters and waste tire management facilities consists of 96 licensed waste tire haulers, 140 local government waste tire collection sites, and six active commercial waste tire processing and collection facilities. Collectively, approximately 10.3 million passenger tires were managed through the waste tire management program for Fiscal Year 2023.

The Waste Tire Program also provides assistance for the clean-up of unauthorized tire dumps and investigates complaints on the mismanagement of waste tires. Since the Waste Tire Abatement program began, MDEQ has removed approximately 2.5 million waste tires from historic and random dumpsites. MDEQ has continued to perform abatement activities at unauthorized waste tire dump sites utilizing selected abatement contractors. In Fiscal Year 2024, the MDEQ will initiate a new procurement process to gain additional waste tire abatement contract support for the continued work of abating abandoned tires.



The program's success has historically been reflected in an overall waste tire recycling rate of approximately 90 percent for all tires collected for processing as compared to the national average of approximately 81 percent.

Electronic Waste Management

MDEQ assists communities, businesses, and private citizens with the proper methods for recycling and disposing of e-waste through a directory of electronic recycling companies and other options for managing and recycling discarded electronics. MDEQ also provides information and resources to support the implementation of the state's Certified Electronics Recyclers law which requires state agencies to use a certified electronics recycler for the end-of-life management of electronic assets.

State law also requires that MDEQ promote the certification of electronics recyclers. MDEQ has continued to promote certification programs managed by two national organizations, Sustainable Electronics Recycling International (formerly R2 Solutions) and the Basel Action Network. These two organizations provide certification of recycling businesses that collect and recycle used electronic products in a safe and responsible manner. MDEQ encourages communities, businesses, and local and state agencies to consider the benefits of using an electronics recycling company certified under one of these programs.

MDEQ provides grants to communities to sponsor e-waste collection events or programs for the public, often as part of larger household hazardous waste collection events. MDEQ also continued its partnership with the Greater Jackson Chamber Partnership helping to promote and staff electronic collection events in the Jackson Metropolitan area.

MDEQ continued its support for the computer refurbishment program conducted at Jackson State University with grant support to assist in the collection and restoration of used computers. The program collects used computers then donated to low-income families, churches, summer programs, nonprofit organizations, or day care centers, and it provides technical training to young adults on computer repair and restoration.



Medical Waste Management

Commercial Medical Waste

MDEQ shares regulatory authority with the Mississippi State Department of Health for medical waste management. This includes oversight of medical wastes collected and transported from health care facilities and veterinary care facilities, emergency and trauma response, business and institutional clinics, and medical wastes generated in private residences through home healthcare. In addition, MDEQ regulates commercial medical waste management activities at the four active (and two inactive) commercial autoclave facilities for the treatment of infectious medical wastes.

Household Medical Sharps

MDEQ oversees a statewide sharps collection program and an associated educational program for the safe disposal of medical syringes, needles, lancets and other devices generated within the home. Local pharmacies, fire stations, and other businesses volunteer their locations as convenient drop-off stations for the public. During Fiscal Year 2023, 11,876 pounds of household medical sharps were collected through this program, a nine percent decrease from the previous fiscal year. Ten new businesses registered during FY 2023 as drop-off collection stations. With a total of 337 collection stations statewide, Mississippi leads the nation in the number of household sharps drop-off locations per capita.

Pharmaceutical Waste

MDEQ encourages the proper management of pharmaceutical wastes and discourages flushing or washing of household medications and other similar products down the toilet or sink. The Mississippi Department of Public Safety offers ten drop box locations at various offices of the Mississippi Highway Patrol and other local law enforcement agencies offer drop boxes for collection of prescription drugs and expired pharmaceuticals. The U.S. Drug Enforcement Administration also offers periodic drug take-back events in partnership with local law enforcement.

On May 26, 2022, MDEQ adopted the federal regulations which promulgated the management standards of pharmaceutical wastes. This rule creates a new part 266 subpart P for the management of hazardous waste pharmaceuticals by healthcare facilities and reverse distributors in lieu of the generator regulations in part 262. This new subpart prohibits the disposal of hazardous waste pharmaceuticals down the drain and eliminates the dual regulation of RCRA hazardous waste pharmaceuticals that are also Drug Enforcement Administration controlled substances.

Organic Wastes

MDEQ promotes the reduction, recycling and proper management of organic wastes that originate from plants or animals and are biodegradable such as grass clippings, leaves, limbs and woody debris, food wastes, biosolids and other organic sludges, animal manure, and certain commercial and industrial woody or plant-based wastes. The reuse or recycling of organic wastes involves processes such as composting, mulching, anaerobic digestion, and land application of the wastes for soil amendment purposes.

Composting and Mulching

Annual report information from composting and mulching facilities indicated that nearly 60,000 tons of wastes were collected and processed as compost or mulch in calendar year 2022. MDEQ has continued to work towards streamlining and simplifying the state's composting and processing facility regulations and permitting process.

Biosolids Land Application

The Waste Division utilizes the Biosolids Land Application General Permit to issue permit coverage for various biosolids projects. The permit offers a streamlined mechanism for eligible biosolids use projects and provides for a more efficient permitting process while maintaining appropriate environmental safeguards on the soil amendment use of these materials. In the calendar year 2022, over 15,000 tons of biosolids were land applied as an agricultural soil amendment. In addition, MDEQ's Beneficial Use program allows for the soil amendment use of Exceptional Quality biosolids, and some Beneficial Use Determinations have been approved for such use of biosolids.

Landfill Methane Outreach Program

MDEQ maintains a partnership with EPA through the Landfill Methane Outreach Program to promote the use of landfill gas as an alternative energy source. Landfill gas is a byproduct of the decay of municipal solid wastes in landfills and contains methane--a potent greenhouse gas that can be captured and used to fuel power plants, manufacturing facilities, vehicles, homes, and more. Mississippi currently has six active landfill gas-to-energy projects, including direct industrial use, at Waste Management's Pecan Grove landfill (Pass Christian), the Golden Triangle Regional landfill (West Point), the Three Rivers Regional landfill (Pontotoc), Waste Management's Prairie Bluff Landfill (Houston), the renewable natural gas project operated by Air Liquide Advanced Technologies US using landfill gas from the Northeast Mississippi Regional Landfill (Walnut), and the landfill gas-powered leachate evaporator also at the Prairie Bluff landfill.

Beneficial Use Program

The Waste Division promotes the beneficial use of nonhazardous by-product materials that would otherwise be disposed of in landfills or managed under a solid waste management permit. The state's beneficial use regulations allow for industries and other waste generators to request that their non-hazardous industrial by-product materials be evaluated for use in the place of products or raw materials. If MDEQ's evaluation of a beneficial use request confirms that the material has suitable physical and chemical properties for the proposed use, then the agency issues a Beneficial Use Determination that exempts the specific use of the material from solid waste management permitting requirements. One of the conditions of a BUD is that the responsible person must annually report on the uses conducted during the state for the calendar year.

Annual report figures provided to MDEQ indicated that BUD holders distributed over 831,000 tons of by-product materials for beneficial uses in calendar year 2022. Over 60 percent of the by-products distributed were used for construction purposes while approximately 38 percent of materials were used in soil amendment applications with the remaining 1% for other uses.

MDEQ works with generators and suppliers of these by-products who provide by-product materials for use in construction, agricultural soil amendment and other applications. The agency also works with industries and waste generators to authorize beneficial use "demonstration projects" that allow an industry or company to conduct a short-term pilot project using the material to demonstrate the suitability of the material for longer term use. During Fiscal Year 2023, MDEQ approved one demonstration project to evaluate the potential for soil amendment use of a drilling muds.

MDEQ is currently in the process of evaluating additional requests for beneficial uses including proposals for the use of egg hatchery waste, coal combustion ash, spent sandblasting media, automobile shredder material, spent lime from flue gas desulfurization applications, and residuals from bentonite clay processing operations. The agency is evaluating whether the proposed uses of these materials meet the state's minimum criteria for a beneficial use determination.

Solid Waste Training and Certification Programs

MDEQ partners with the state and national chapters of the Solid Waste Association of North America to provide training and certification to commercial solid waste landfill operators. MDEQ issued certificates for two new landfill operators and ten renewals for existing landfill

operators. At the end of Fiscal Year 2023, there were 36 active commercial landfill operator certifications.

MDEQ also offers a state-developed certification program for commercial Class I rubbish site operators. MDEQ conducted a virtual rubbish operator training class in Fiscal Year 2023, followed by an in-person examination session. MDEQ issued certificates for 27 new rubbish operators and 36 renewals for existing rubbish operators. At the end of Fiscal Year 2023, there were 123 active Class I rubbish site operator certifications.

MDEQ promotes training opportunities offered through SWANA for continuing education for landfill and Class I rubbish site operators. Fall and spring conferences were held by the state chapter of SWANA and MDEQ staff provide assistance and support with these events where needed.

Mississippi Corrective Action Trust Fund

The Waste Division administers the Mississippi Nonhazardous Solid Waste Corrective Action Trust Fund to evaluate or address problems at historic landfills. The CATF provides an opportunity for financial assistance to the landfill site owners to conduct preventative or corrective actions at municipal solid waste landfills that closed prior to the effective date of the Federal Subtitle D Regulations. A landfill owner can request assistance from the fund for actions related to either a known release or to evaluate or assess a potential release of contaminants from the landfill. The uses of the funds could include monitoring or abating problem conditions such as onsite or offsite impacts from potential groundwater contamination or landfill gas migration or remediating other forms of contamination at an eligible landfill site.

In Fiscal Year 2023, work continued on a previously approved corrective action project with the City of Laurel to relocate, stabilize, and properly cover historic waste at a closed city landfill at the city's Sportsplex property. Additional corrective action included the placement of a suitable final cover system over all buried waste at the site, and MDEQ awarded a total of over \$714,000 to assist with the costs of these activities. During Fiscal Year 2023, all proposed work was completed.

Hazardous Waste Management Program

MDEQ's Hazardous Waste Management Program ensures that hazardous wastes are managed, treated and disposed of in a manner which protects communities and the environment. MDEQ is authorized by EPA to manage and implement the Hazardous Waste Program, and EPA exercises oversight of the program to ensure it is implemented in accordance with federal regulations--the 2022 Resource Conservation and Recovery Act

Grant Work Plan and the 2015 Memorandum of Agreement for the RCRA Hazardous Waste Management Program. On May 26, 2022, the Commission on Environmental Quality approved revised regulations to adopt ten hazardous waste rulemakings by EPA. Hazardous waste program elements of permitting, compliance and enforcement and regulation adoption are consolidated in the Hazardous Waste Management Program.

Currently, there are two permitted operating facilities which treat or store hazardous waste. There are also 16 permitted facilities conducting remediation and post-closure activities for historic hazardous waste units. MDEQ also provides compliance oversight, as well as outreach for hazardous waste generators, and currently approximately 130 large quantity generators and 263 small quantity generators are operating in Mississippi. The MDEQ Hazardous Waste Program met its compliance oversight obligations as per the EPA program delegation requirements conducting 46 inspections of hazardous waste management facilities during federal Fiscal Year 2023. In addition, the Hazardous Waste Branch provides support to the agency's Household Hazardous Waste Grants program coordinating additional MDEQ staffing support to local community events.

Underground Injection Control Program

MDEQ's Waste Division administers the agency's underground injection control program overseeing the disposal of certain nonhazardous and hazardous aqueous industrial wastes by deep well injection practices. MDEQ is the designated regulatory authority by EPA for the protection of underground sources of drinking water through the regulation of Class I, III, IV, and V Underground Injection Control wells. The MDEQ UIC program is managed by the Geotechnical Programs Branch in the Waste Division. Class II wells are regulated by the Mississippi State Oil and Gas Board as delegated by EPA and state law. In addition, the Mississippi Legislature recently acted to amend state law to clarify that the regulation of Class VI UIC wells (wells used for carbon sequestration) would be delegated to the Mississippi State Oil and Gas Board and to direct that agency to seek primacy for the implementation of the Class VI well program from EPA in coordination with MDEQ. The development of a memorandum of understanding between the two agencies and EPA is underway.

The UIC program responsibilities in the protection of underground sources of drinking water include the regulation of 11 permitted Class I UIC wells and over 7,500 class V wells. MDEQ also has regulatory authority over Class III and Class IV wells, but no wells of these classifications exist in the state. The UIC program did not permit any new wells during the year. In addition, the program continued its oversight of the state's first commercial

nonhazardous underground injection control well facility operating in Amite County for the disposal of nonhazardous municipal landfill leachate and other wastewaters from oil and gas exploration and production.

Pollution Prevention Program

The MDEQ Pollution Prevention Program is coordinated by the Waste Division with the various air, water, and waste environmental media programs in the agency. The P2 program coordinates multiple activities focusing on the reduction of waste at the source that can impact the environment. The Mississippi P2 program efforts are supported in part by a Pollution Prevention Grant from EPA which provides the state with additional resources to assist industries, businesses and government agencies and institutions with pollution prevention and waste minimization efforts such as:

- Providing information and technical assistance to businesses and industries, environmental consultants, local governments, state and federal agencies, and system operators on hazardous and non-hazardous waste management and pollution prevention practices.
- Supporting the Mississippi Economy, Energy, and Environment initiative which includes projects, programs and efforts designed to focus on sustainability and the triple bottom line of energy, environment, and the economy.
- Reviewing, managing, and monitoring the waste minimization plans, annual waste minimization certified reports, and the calculation of the annual P2 fees for Toxic Release Inventory Form Filers and Hazardous Waste Generators.
- Providing administration and implementation of the agency's environmental stewardship recognition program entitled: Envision Heightened Awareness Nurturing Conservation and Environmental Excellence. EnHance recognizes the manufacturers, businesses, governments and institutions that go above and beyond standard environmental requirements.
- Coordinating and partnering with state and the federal government agencies and non-governmental entities to promote effective pollution prevention practices.

As a result of extenuating circumstances with contractor support and other factors, the P2 program has faced challenges with continuing many of its assistance and outreach program efforts over the past state fiscal year. However, the MDEQ P2 Program was able to accomplish a number of important tasks including the following:

- Continued the agency's partnership with the Mississippi Manufacturing Association through its contract and work order with MMA's Manufacturing Extension

Partnership to assist in providing the P2 and E3 technical assistance program for Mississippi manufacturers.

- Reviewed and monitored 198 annual waste minimization certified reports submitted by various industries and facilities around the state.
- Hosted the 2023 enHance Annual Workshop "Learning from Yesterday, Conserving Today, Securing Tomorrow" on June 28, 2023. The 2023 enHance workshop recognized the Class of 2023. The Class of 2023 had two new members and 11 renewing members. Chris Wells, Executive Director, MDEQ presented the recognition awards for both classes.

enHance Environmental Stewardship Program



The P2 program sponsors the agency's environmental stewardship recognition program, enHance. The enHance program has grown to 35 active members representing top environmental performers throughout the state. enHance is a voluntary stewardship program that recognizes committed environmental leaders who accomplish goals beyond their standard regulatory requirements. enHance is

open to manufacturing facilities, cities, counties, and other organizations who are interested in the program and meet the eligibility requirements. Applicants can choose to apply for membership at three tier levels: Leader, Steward, or Associate.

This past year marks the fifteenth year of the enHance program. In the past year, members' projects have resulted in over 1000 pounds of solid waste being reduced, 26 million gallons of water saved, and the reduction of 309,150 MMBTU in energy use. EnHance members also reported more than \$1,043,801 saved and reductions in total air emissions of more than 123,070 tons. Over the past 15 years, the enHance program members have achieved the following total reductions to pollution and wastes:

- Eliminated 1,245,648 pounds of hazardous waste.
- Reduced, reused, or recycled 1.5 million pounds of solid waste.
- Saved more than 360 million gallons of water.
- Reduced annual energy use by more than six billion kilowatt hours for nearly 21 million MMBTUs of total annual energy savings.
- Reduced GHG Emissions by more than 8 million of CO₂e in metric tons
- Reported cost savings from waste reduction practices of over \$10 million.

These results have been achieved through changes in operating procedures, redesign of products or packaging, beneficial re-use or recycling of materials, installation of more efficient equipment, and other similar beneficial practices. In Fiscal Year 2023, the enHance program continued to promote these best management practices to encourage more widespread implementation through training sessions, mentoring, and participation.

Additional Waste Division Outreach Efforts

- On July 19, 2022, the Recycling and Waste Reduction Branch staff conducted a teacher workshop in Harrison County.
- Waste Division staff attended as well as assisted in planning and execution of the 2022 Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Joint Hazardous Waste and Materials Management Training Conference August 23-25, 2022, in Cleveland, OH. The event offered several opportunities for State and U.S. Territory representatives to learn about several materials management and hazardous waste topics as well as network to discuss issues and communicate with EPA on various national environmental matters.
- Waste Division staff conducted presentations to area students as part of the Newton County Conservation Fair held October 11-12, 2022.
- The State Recycling Coordinator participated virtually in a panel discussion as part of the Southeastern Recycling Development Council's annual meeting, November 8-10, 2022.
- Waste Division staff participated in a virtual EPA Region 4 meeting on January 30, 2023 focused on third-party reporting of biosolids management involving roundtable discussion on Region 4 State regulations and policies regarding biosolids reporting.
- Waste Division staff met with members of the Yazoo County Board of Supervisors and other county officials to discuss the county's upcoming efforts to comprehensively update the county solid waste management plan. The meeting allowed county representatives and their consultants to learn about the plan development process, ask questions and receive recommendations, and become more familiar with MDEQ's available solid waste planning grants.
- Waste Division staff attended as well as assisted in planning and execution of the Mississippi Chapter SWANA with their annual Spring Conference April 4-6, 2023 in Biloxi, MS. The event allowed MDEQ staff to engage with public and private representatives of the solid waste and recycling industries.
- MDEQ Recycling and Waste Reduction Branch staff, promoted recycling, waste reduction and proper waste management at the University of Southern Mississippi's annual Earth Day Fair on April 26, 2023.
- Waste Division staff attended the ASTSWMO 2023 Midyear Meeting April 26-27, 2023 in Wilmington, DE where they engaged with State and U.S. Territory members in

roundtable discussions as well as received updates and training on various environmental issues.

- On May 16, 2023, Recycling and Waste Reduction Branch staff conducted presentations on composting to area students as part of Lawrence County Conservation Day.
- Waste Division staff conducted a teacher workshop in Vicksburg on June 21, 2023,
- MDEQ staff attended and assisted in the planning of MDEQ's EnHance Program Workshop in Flowood on June 28, 2023.
- Waste Division staff participated in multiple virtual calls with Region 4 EPA and States during SFY23 concerning multiple EPA grants. MDEQ applied to EPA for new grant funding towards the agency's efforts in adopting the federal rules on management of coal combustion residuals (CCR) as well development of a state permitting program for CCR units. Additionally, MDEQ applied to EPA for new grant funding towards efforts to improve recycling infrastructure in the state of Mississippi. EPA has provided several opportunities to Region four States to learn about these grant opportunities, ask questions, and receive feedback on proposals.



COMPLIANCE & ENFORCEMENT

The Office of Pollution Control's Environmental Compliance and Enforcement Division implements and oversees the majority of MDEQ's air and water compliance and enforcement activities. When a site fails to comply with its permit(s) or regulations, appropriate enforcement action is taken to promptly return the site to compliance.

During Fiscal Year 2023, the following number of air and water on-site inspections were performed by ECED and the Field Services Division:

- 159 for compliance with air pollution regulations and permits.
- 1,081 for compliance with water pollution regulations and permits.

ECED actions resulted in 26 Agreed Orders being issued for non-compliance with air and water regulations and permits. Of the 26 Agreed Orders executed, 21 contained provisions for a penalty with a total of \$2,023,812.50. When appropriate, MDEQ allows the use of Supplemental Environmental Projects, projects that go beyond what is required to comply, to offset a portion of a cash penalty. There were no orders utilizing a SEP during Fiscal Year 2023.

ECED, in conjunction with the Field Services Division, is also responsible for responding to citizen complaints regarding air and water matters. During Fiscal Year 2023, MDEQ received and investigated 895 complaints related to air and water matters. When citizens report an environmental problem, they are asked to explain the nature of the problem and give the location of the problem, including directions to the site. A name is not required; however, if a name and contact information are provided, MDEQ either contacts the complainant during the investigation or provides the results of the investigation after the investigation is complete.



WATER QUALITY

Fiscal Year '23 Accomplishment Highlights

During Fiscal Year 2023, the Nonpoint Source Branch managed a total of 43 projects and activities totaling \$1.475 million in federal funds.

MDEQ funded seven new WPCRLF projects totaling \$41.8 million.

Issued stormwater general permit coverages for 298 new projects, 54 modifications, and 519 reissuances despite MDEQ staffing shortage.

Water Quality Monitoring

MDEQ monitors the quality of surface water throughout the state using collected data compared to the state's water quality standards with determinations made about the health and safety of Mississippi's surface waters. The results of the determinations can be found in the state's biennial Clean Water Act Section 305(b) Water Quality Inventory report. Waterbodies not meeting their water quality standards are placed on the state's Clean Water Section 303(d) List of Impaired Water Bodies for action. Data collected through the water quality program is publicly available on request or through EPA's Water Quality Portal.

Water Quality Strategic Goal:
Protect and restore surface and
groundwater quality
in Mississippi.

Water Quality Objective:
Ensure the improvements funded
through the Water Pollution Control
Revolving Loan Fund Program are
adequate to meet the needs of citizens,
the business community, and to foster
economic growth.



Ambient Recreational Monitoring Network

MDEQ maintains a statewide ambient bacterial monitoring network for the purpose of assessing water quality conditions in streams, rivers, lakes, bayous, and estuaries throughout the state. 51 Ambient Bacterial Monitoring sites are sampled in this network with an additional 21 beach monitoring. The sampling scheme includes the collection of six bacteria samples at each station within a 30-day period during contact (May-October) and non-contact (November-April) seasons to obtain a geometric mean criterion for each site.

Ambient Lake Monitoring

MDEQ collects chemical, physical, and biological samples from public lakes throughout the state. The lakes selected are greater than 100 acres in size and are devoid of nutrient enrichment. The program is scheduled in a triennial cycle so that each lake site has three years' worth of data before a new cycle with different lakes begins.

State of Mississippi Water Quality Assessment 2022 Biennial 305(b) Report

Every two years MDEQ is responsible for generating the Water Quality Assessment Report under Section 305(b) of the Clean Water Act. The report comprehensively describes for EPA, Congress, and the public the status of the quality of the state's surface waters. The report also describes the state's assessment methodology and gives the causes, where known, for those waters identified as impaired. The 305(b) report is an overview of how the waters are assessed and what the overall results of these assessments are. The 2022 305(b) report is based on data collected from January 2016 through December 2020. The report also touches on public health concerns such as fish tissue advisories and beach advisories. At the end of the report is an appendix that lists each site sampled between 2016 to 2020 and whether it is attaining or not attaining its designated use or uses. The report can be found at www.mdeq.ms.gov/tmdl.

Mississippi Benthic Index of Stream Quality

The Mississippi Benthic Index of Stream Quality (M-BISQ) is an index of biological integrity that is used to assess all wadeable non-tidal streams in Mississippi except for wadeable streams located in the Mississippi Alluvial Plain. Monitoring efforts completed as part of this effort have greatly increased the number of biological assessments conducted on state waters. The M-BISQ sampling program and the established sampling and analytical methodology contained therein now serve as the foundation for routine biological

monitoring in MDEQ's statewide Ambient Monitoring Network. This index was originally developed and calibrated using biological and environmental data collected from 20 years of wadeable stream locations.

Fixed Station Ambient Monitoring

MDEQ's network of statewide ambient water quality monitoring stations provides systematic water quality sampling at regular intervals and uniform parametric coverage to monitor water quality status and trends over a long-term period. Sampling is carried out by MDEQ scientists from each of the agency's three regional offices.

There are currently 37 stations statewide, and laboratory analyses for the samples are carried out monthly by MDEQ's laboratory.

Fish Tissue Monitoring Program

The MDEQ Laboratory monitors fish tissue for contaminant levels that could be harmful to people that consume fish from the state's waters. When elevated levels of contaminants are found in fish tissue, the data is used by a multi-agency task force to determine if a fish tissue consumption warning or advisory is warranted. Presently, there are advisories for Mercury, DDT, Toxaphene, and PCBs on many state waters. Monitoring is currently focused on these areas to provide additional data that may contribute more information towards evaluating advisories in the Mississippi Delta. 15 lakes were sampled in Fiscal Year 2023.



Coastal Monitoring

Mississippi's Coastal Assessment monitoring is conducted during the late summer index period (July to September) and includes biological, chemical, and physical sampling. The sites are selected using a probabilistic site selection methodology, and 33 sites were sampled in Fiscal Year 2023. At the end of a five-year cycle, a total of 125 sites have been sampled for the coastal monitoring program.

Beach Monitoring Network

MDEQ conducts routine bacteria and water chemistry sampling at 21 beach stations located along Mississippi's Gulf Coast as part of the Mississippi Beach Monitoring Program. When Enterococcus bacteria concentrations reach unsafe levels, beach water contact advisories are issued. In addition, the monitoring data provides information concerning the seasonal water quality conditions of the immediately accessible waters along the public bathing beaches.

During Fiscal Year 2023, a total of 42 advisories were issued for elevated bacteria detected through routine sampling.

Triennial Review of Water Quality Standards

The Clean Water Act requires that each state review their water quality standards (WQS) at least every three years in a process called the triennial review. WQS must include three components: the designated uses of the state's waterbodies, the water quality criteria necessary to protect those uses, and antidegradation provisions to protect water quality. During the triennial review, the latest science and information available are considered, and when needed, criteria are updated to protect human health and aquatic life.

The last modifications to Mississippi's WQS were approved by EPA Region IV on December 17, 2021. Revisions to Mississippi's WQS as part of the triennial review included updates to aquatic life criteria, the addition of three new waterbody classifications, and additional language related to the implementation of water quality standards.

In preparation for the next triennial review cycle, MDEQ WQS staff are now reviewing the latest scientific information and evaluating the need for revisions to the current WQS. The required three-year timeline for triennial reviews of WQS is typically based upon the date of the public hearing. The last public hearing for WQS revisions took place on March 30, 2021. Therefore, MDEQ plans to propose any draft revisions to Mississippi's WQS as part of the next triennial review process in early to mid-2024.

Total Maximum Daily Load and Modeling

Total Maximum Daily Loads are a requirement of the Clean Water Act to provide direction for restoring the nation's waters. TMDL reports provide an analysis of the ability of a water body to assimilate pollutants from point sources such as industry and communities and nonpoint sources such as stormwater runoff from urban areas or agriculture.

Water bodies that do not meet water-quality standards are identified as "impaired" for the particular pollutant of concern. Under Section 303(d) of the CWA, states are required to develop a list of waters that are not in compliance with water quality standards and establish a TMDL for each pollutant causing the impairment. MDEQ biennially creates a list of these impaired waters called the 303(d) List of Impaired Waters. This list was updated again in 2022 and was approved in February of 2022. MDEQ has completed work on stressor identification analysis for seven water bodies that have been assessed as biologically impaired. The SI process identifies the potential biological stressors to water quality for each biologically impaired assessed water body. Once the most probable stressors have been identified, TMDLs for those water bodies are developed.

Model Calibration Studies

The Pascagoula River and Eastern Mississippi Sound were targeted for model development in 2022 to better inform permitting decisions for facilities that discharge to this area. Model calibration was completed this year and MDEQ took delivery of the model in July.

A study was conducted on Sowashee Creek near Meridian in Lauderdale County. This effort included water quality monitoring for an array of parameters including dissolved oxygen, temperature, and velocity. This information will be used to improve the water quality models used to establish TMDLs and waste load allocations for Sowashee Creek.

Development of the Priority Framework

MDEQ has developed a new collaborative framework for implementation of the Clean Water Act known as the Priority Framework. This new framework coordinates and focuses efforts to advance the effectiveness of the water program. Various environmental factors were adjusted based on professional judgment of the importance of each for characterizing watershed value. Once these factors were developed, standardized, and weighted, a relative ranking of every watershed within the state was produced. This ranking was used to screen watershed for activities that will address the water program goals, and a total of 21 watersheds were chosen as targeted watersheds.

In order to select the priority watersheds, MDEQ used landscape information to calculate metrics on the watershed scale that are used to characterize and rank watersheds by resource value and potential stressors. Resource value is determined using environmental and human welfare data layers. Environmental factors considered include erosion potential, impervious areas, wetlands, impaired waters, and concentration and types of discharge permits. Human welfare factors include demographics, fishing advisories, water supply intakes, public water supplies, recreational water bodies, public waterways, national and state parks, and recreational locations.

MDEQ will review the selection process and screening criteria during this two-year listing cycle to choose new targeted watersheds for TMDL development. This list will be published as part of the 2024 Section 303(d) List of Impaired waters. Flexibility will be retained to re-evaluate selections and amend watershed selection in the face of changing state priorities as well as changing EPA national and regional priorities.

Mississippi River and Gulf of Mexico Watershed Nutrient Task Force

MDEQ continues to support the efforts of the Mississippi River and Gulf of Mexico Watershed Nutrient Task Force to understand the causes and effects of increased nutrients in the Gulf of Mexico and coordinate activities to reduce the size, severity, and duration, and mitigate the effects of hypoxia. 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.

Nonpoint Source Pollution

Nonpoint Source Pollution is rainwater runoff that picks up and carries away a variety of pollutants as it flows over streets, parking lots, construction sites, and agricultural lands. The pollutants may then flow into rivers, oceans, and underground sources of drinking water. These pollutants include excess fertilizer, sediment, nutrients, pesticides, oil, grease, and bacteria from faulty septic systems.

During Fiscal Year 2023, the NPS Branch managed a total of 43 projects and activities totaling \$1.475 million in federal funds. These projects may take from one to four years to complete and include, but are not limited to, education and outreach projects, water-quality monitoring projects, projects that implement Best Management Practices to demonstrate effectiveness of pollution reduction activities, agricultural and chemical waste disposal, and watershed protection and restoration projects.

Basin Management Approach

The goal of Mississippi's Basin Management Approach is to restore and protect water resources of the state through collaborative development and implementation of effective management strategies that help improve water quality and quantity while fostering sound economic growth. To effectively carry out planning and implementation activities, the ten major river basins in Mississippi have been organized into four basin groups. Each basin group has a basin team comprised of the representatives from federal, state, and local government agencies, non-governmental organizations, and other stakeholders. This program implements strategies that target priority watersheds throughout the state. Prioritization of these watersheds is an evolving process identified in coordination with resource agency partners as part of the Basinwide Approach to Water Quality Management.

The Basin Management and NPS Programs are 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. One key partnership to increase this overall effectiveness is with the USDA Natural Resources Conservation Service. MDEQ and NRCS work collaboratively using Section 319 funds for assessment and monitoring of National Water Quality Initiative sites where the NRCS has or will implement various conservation practices such as cover crops, filter strips, and terraces. In addition, information from the Mississippi Watershed Characterization and Ranking Tool is used to help identify priority watersheds for targeted funding under the National Water Quality Initiative as well as other NRCS funding initiatives.

National Water Quality Initiative

The National Water Quality Initiative was introduced by the NRCS in 2012 as a collaborative effort with EPA and state water quality agencies including MDEQ. NWQI strives to reduce nonpoint sources of nutrients, sediment, and pathogens related to agriculture in small priority watersheds within each state. The watersheds within Mississippi that received funding for Best Management Practices implementation in Fiscal Year 2023 included Coon Creek-Tuscumbia River Canal, North Tippah Creek, Middle Porter Bayou, Upper Porter Bayou, Hudson Creek-Clear Creek, and Lynn Creek-Homochitto River. NRCS is now requiring all NWQI watersheds (previously existing and new) to have a watershed assessment completed to be eligible for funding.

Mississippi River Basin Healthy Watershed Initiative

This initiative assists landowners and producers to voluntarily implement conservation and management practices that prevent, control, and trap nutrient runoff from agricultural land. MDEQ works collaboratively with NRCS to target watersheds to receive MRBI funding. The watersheds within Mississippi that received funding for Best Management Practices implementation in Fiscal Year 2023 included Beaver Bayou-Mound Bayou, Christmas Lake Bayou, Bear Lake, Brook Bayou, Fighting Bayou, Otter Bayou, Straight Bayou, Dry Bayou, Clark Bayou, Ruleville Lagoon, Sherman Creek-Panola Quitman Floodway, Yazoo Pass, Long Lake, Burrell Bayou, Stillwater Bayou, Hopson Bayou, Overcup Slough-Harris Bayou, Deer Creek-Rolling Fork Creek, Big Monocnoc Lake, Bobo Outlet-Harris Bayou, Pecan Bayou, and Lower Tchula Lake-Yazoo River. Bear Lake, Yazoo Pass, Sherman Creek-Panola Quitman Floodway are also active Section 319 project watersheds.

Stormwater Regulations to Improve Water Quality

MDEQ issues permits covering discharges resulting from rainfall events and the associated stormwater runoff from industrial or commercial sites. These permits focus on avoiding pollutants commingling with stormwater, averting excessive erosion, and preventing contaminated stormwater from entering waters of the state. The permits contain best management plans, monitoring conditions, and operational requirements to ensure stormwater discharges will not cause or contribute to violations of water quality standards or impair any beneficial uses of waters of the state.

In Fiscal Year 2023, MDEQ took the following stormwater permitting actions:

- EPD issued general permit coverages for 223 new projects and 38 modifications under the Large Construction Stormwater General Permit. Additionally, EPD reissued 433 previously covered facilities under the new permit.
- EPD issued 33 new coverages, reissued 62 existing coverages, and modified five existing coverages under the Industrial Stormwater General Permit. Additionally, EPD received and processed four “No Exposure Certifications” from potentially regulated industrial facilities. Facilities that certify “No Exposure” of industrial activity to stormwater are not required to obtain storm water coverage under the Industrial Stormwater General Permit.
- EPD issued 42 new coverages, reissued 24 existing coverages and modified 11 existing coverages that are regulated under the Mining Stormwater General Permit.

Environmental Operator Training

The training calendar included 71 days of agency-sponsored training classes. Of these training days, 56 were co-sponsored with the three wastewater-related professional associations (Mississippi Water and Pollution Control Operators' Association, Mississippi Water Environment Association, and Mississippi Rural Water Association). Attendance totaled 965 operators, utility managers, and engineers, and certification exams were administered to 129 prospective operators with a total number of 93 new and renewal certificates issued. There are currently 704 certified pollution control operators in the state.

The MDEQ Operators Training program staff have partnered with the Mississippi Rural Water and the Mississippi Water Pollution Control Operators Association to speak at functions for the Mississippi Municipal League with the goal of increasing communication between operators and municipal officials. The training staff also provide onsite technical assistance to municipal, commercial, and industrial wastewater facilities. This assistance program provides "no cost" assistance in returning to or maintaining compliance with their wastewater permit.

Water Pollution Control Revolving Fund

The Water Pollution Control Revolving Loan Fund program provides low interest loans to public entities in the state for construction, repair, or replacement of wastewater, stormwater, and nonpoint source pollution projects. Funding for these projects comes from federal grants, state matches, repayments, and interest on deposits. Additional subsidy funding is also currently available for "Small and Low-Income Community" WPCRLF projects. During Fiscal Year 2023, MDEQ funded seven new WPCRLF projects totaling \$41.8 million.

Water Pollution Control Emergency Loan Fund

The Water Pollution Control Emergency Loan Fund program provides loans to communities for the emergency construction, repair, or replacement of wastewater collection and treatment facilities. The WPCELF currently has approximately \$3.1 million available for such emergency projects. MDEQ encourages communities throughout the state to utilize this program whenever funds for emergency wastewater projects are needed. There were no new WPCELF loans awarded during Fiscal Year 2023.

REMEDIATION

Fiscal Year '23 Accomplishment Highlights

Provided technical support to eleven cities and districts to conduct assessments and cleanups.

Completed 20 Targeted Brownfield Assessments.

Proposed new Brownfield Revolving Loan Fund Regulations.

Provided responses to 20 hazardous site determination requests.

Brownfields

A “brownfield” is a property which may be complicated by the presence of a hazardous substance, pollutant, or contaminant that affects the expansion, redevelopment, or reuse of the property. MDEQ’s Brownfield Program allows prospective purchasers and developers, along with existing companies, to assess, remediate, and revitalize these sites. Through the program, companies can coordinate with MDEQ and the Mississippi Development Authority to participate in a redevelopment incentive program to defray the remediation costs associated with cleaning up contaminated properties. To date, 60 companies have participated in the program. This Fiscal Year, MDEQ provided technical support to the Cities of Boonville, Canton, Columbia, Greenville, Hernando, Jackson, Louisville, Natchez, Vicksburg, West Point, and Yazoo City along with the North Central Planning and Development District (PDD), the Southern Mississippi PDD, the Central Mississippi PDD, the Golden Triangle PDD, and the Three Rivers PDD to conduct assessments and cleanups for site redevelopment for locations that have potential or perceived environmental issues. These cities and development authorities received EPA grants to conduct brownfield revitalization projects. In addition, MDEQ approved two Brownfield Agreements.

Remediation Goal:
Protect human health
and the environment
through proper
mitigation, remediation,
reclamation, and
restoration of natural
resources.



In 2023, MDEQ completed 20 Targeted Brownfield Assessments in the cities many communities across Mississippi. TBAs can consist of environmental assessment activities such as Phase one and Phase two, asbestos and lead based paint surveys, Underground Storage Tank removal, and cleanup planning. These TBAs reduce costs and promote redevelopment opportunities for fellow government agencies and private entities as funding allows. MDEQ has increased the number of TBAs it has conducted historically due to the EPA 104k and 128a grant funding that has been awarded to MDEQ. In addition, the Bipartisan Infrastructure Law appropriated additional Brownfield funding to States in which MDEQ has been awarded \$1.65 Million in the first two of an expected five year federal appropriation. MDEQ expects to conduct over 20 TBAs each year through the next three years.

MDEQ was also awarded by EPA \$1 Million in grant monies to establish a Brownfield Revolving Loan Fund Program. MDEQ has established new Brownfield Regulations to implement this program and expects to begin receiving applications in 2024.

Remediation Objective:
Ensure contaminated sites are properly assessed, remediated, and redeveloped in a manner protective of human health and the environment.



Uncontrolled Sites and Voluntary Evaluation Program

During Fiscal Year 2023, Groundwater Assessment Remediation Division staff actively oversaw 230 assessments and/or cleanups with the total number of sites at 2,235. These 2,235 sites cover all the known and suspected contaminated sites reported to the state since 1967. MDEQ issued "No Further Action" letters for thirteen of these sites that were evaluated and remediated to levels protective of human health and the environment resulting in an additional 113 acres ready for reuse.

MDEQ issued three Restrictive Use Agreed Order/Environmental Covenants, allowing these sites to be reused with certain activity and use limitations. During Fiscal Year 2023, MDEQ provided responses to 20 hazardous site determination requests from local governments and/or development districts to foster economic development and redevelopment and to assist with compliance with National Environmental Policy Act.

The Voluntary Evaluation Program offers an opportunity to receive an expedited review of site characterization and remediation plans and reports for parties that are voluntarily cleaning up uncontrolled sites that they have an interest in. The VEP is funded entirely by these participants who pay for MDEQ's oversight costs. To date, 464 sites have participated in the VEP program, approximately 20 percent of GARD's total number of sites.

Superfund and Federal Facilities Cleanup and Redevelopment

Oversight of the assessment and remediation process at seven federal Superfund sites, seven Department of Defense Facilities, a NASA Facility (Stennis Space Center) and several Formerly Used Defense Sites continue to be a large portion of the work involving the Comprehensive Environmental Response, Compensation, and Liability Act Branch of MDEQ. This oversight work is funded through agreements with EPA, the Department of Defense, and NASA. Through these agreements, CERCLA staff perform preliminary assessments, site investigations and site inspections at hazardous waste sites for National Priority List consideration, coordinate with EPA on emergency/removal projects, and assist EPA with the oversight of the remediation of eight Superfund sites.

In 2023, one additional site, Hercules – Hattiesburg, was added to the National Priority List. The state is not required to pay ten percent of the remedial costs if a viable potential responsible party is identified. To date, a viable potential responsible party has been identified for Hercules.

The Mississippi Phosphates site has completed 75% of Phase 1 of its removal action to grade and cap the East Gypsum Stack in April 2023. The East Gypsum Stack is now closed via an engineered geosynthetic cover. EPA has shifted to closing out the remaining ponds and water return ditch alongside the East Gypsum Stack. Mississippi Phosphates has no viable PRP identified at this time, and no estimate of future remedial costs has been given to date. EPA is proceeding with ongoing wastewater treatment during cleanup and closure. EPA is

projecting completion of their responsibilities in 2026, and estimates the state's remedial costs will begin in 2027. The closure of the East Gypsum Stack is being conducted under a Removal Action, which does not require a cost share from the State of Mississippi.

Underground Storage Tanks

MDEQ manages the state's Underground Storage Tank Program, which prevents and detects leaks of petroleum products and hazardous substances and protects groundwater from leaking tanks. The UST Program registers all USTs in the state, conducts operator training, certifies contractors, and conducts inspections and compliance assistance at petroleum storage facilities. The program is also responsible for the assessment and remediation of UST facilities and the management of the Mississippi Groundwater Protection Trust Fund if a confirmed release of petroleum product is identified at a facility.

The compliance program inspects UST facilities and is responsible for ensuring 7,927 tanks at 2,966 facilities have the appropriately maintained equipment. In Fiscal Year 2023, there were 1,074 inspections conducted.

A UST-certified contractor program ensures proper installation and maintenance of UST systems. This past year 52 new UST certified contractor licenses and 280 renewal licenses were issued. There are currently 351 certified individuals that perform tank installations, alterations, testing, and/or permanent closures. There are currently 450 Leaking Underground Storage Tank sites.

In the event of a release, the Trust Fund is used by MDEQ to assess and clean up contamination resulting from leaking USTs with no additional costs for eligible tank owners and operators. The fund began in 1987, and in June 2023 it reached an overall payout of \$233.7 million to reimburse eligible tank owners for the assessment and cleanup of sites contaminated from leaking USTs. At the end of this Fiscal Year, MDEQ was working on 598 sites that have had a confirmed or non-confirmed release and Trust Fund eligibility may or may not have been determined. During Fiscal Year 2023, \$8.8 million was used to assess and remediate leaking underground storage tanks, a decrease of four percent of spending.

Revenue to operate the UST Program is derived from federal grants and annual active tank fees imposed on tank owners. In 2018, an UST Advisory Council was created to provide an independent review of the MDEQ UST Program funding needs to determine the recommended amount for the Fiscal Year annual tank fee. In 2022, the UST Advisory Board recommended a potential law change to allow the Trust Fund to be used to help fund the UST Program in lieu of continuing to raise the annual tank fee since the Trust Fund has remained sound since 1987. This law change passed in the 2022 Mississippi Legislative Session and was signed into law by the governor in April 2022.

LAND & WATER



Office of Land and Water & Dam Safety

WATER QUANTITY

Fiscal Year '23 Accomplishment Highlights

Issued or renewed 212 driller's licenses, and all available data for new water wells drilled in the state were added to a database management system.

Sampled 60 water wells in a continuing effort to ascertain if agricultural practices are affecting the quality of groundwater aquifer systems statewide.

Measured water levels in 25 water wells to study the groundwater resources available in Hinds, Madison, and Rankin Counties.

The Office of Land and Water Resources (OLWR) pursues a conjunctive water management approach that coordinates the use of the ground water and surface water resources of the state to satisfy desired water needs. OLWR ensures the use, storage, allocation, and management of water resources and that water pumped and impounded in Mississippi complies with applicable permit regulations. OLWR has programs that include the development and implementation of monitoring plans to accomplish the systematic collection, compilation, and management of data related to aquifers, streams, and lakes; water use surveys and meter reporting tools; the application of computer models to assist in making water management decisions; the review and processing of applications for permit issuance and modification; and enforcement of ground and surface water use permits.

OLWR is also responsible for licensing and regulating water well contractors; regulating the design, construction, and modification of certain dams in accordance with regulatory criteria to ensure that lives and property downstream are protected; and assessing potential contamination threats to public, domestic and industrial water supplies.

Water Quantity Goal: Maintain sustainable quantities of surface and groundwater in Mississippi.





Water Quantity Objective:
Increase the efficiency of water use to improve sustainability of groundwater and surface water in Mississippi.

In Fiscal Year 2023, OLWR continued to engage large water users in industry, agriculture, public drinking water, and the energy sector to balance water use and economic development. In the Mississippi Delta, OLWR is developing innovative approaches to studying and addressing water sustainability in the heavily utilized alluvial aquifer. OLWR is also monitoring irrigation use outside of the Delta to mitigate competition with domestic and public supply drinking water resources.

In Fiscal Year 2023, OLWR continued to engage large water users in industry, agriculture, public drinking water, and the energy sector to balance water use and economic development.



Water Resource Permitting and Management

The primary objective of the OLWR is to research and manage the water resources of the state to assure adequate supplies for the future. This is achieved by the coordinated interaction of the water withdrawal permitting process with the inventorying and assessment of the availability of water from freshwater aquifers and major freshwater streams. As the entity responsible for managing the water withdrawal permits, OLWR issued 2,263 new and renewal groundwater permits and 22 new and renewal surface water diversion permits in Fiscal Year 2023. Included in each permit is an established maximum withdrawal amount and any necessary special terms and conditions associated with a respective permit. For surface water permits, stream flows and lake levels are routinely monitored, and in the event that these fall below established standards, permittees are required to cease withdrawing water until flows rise above established minimums.

OLWR's Certification and Compliance Branch handles compliance and enforcement actions associated with water well drillers' licensing, terms, and conditions associated with groundwater and surface water withdrawal permits, and any other compliance issues. The branch works with industry, public suppliers, water well drillers, and other members of the regulated community to bring those entities into compliance with state laws and regulations. In addition, the Branch continued working with producers in the Mississippi Delta to verify compliance of conservation practices on farms as required by the terms and conditions of their groundwater withdrawal permits.

Assessment and Study of Water Resources

The abundant water supplies in Mississippi constitute one of the most important and valuable natural resources contributing directly to the quality of life and economic prosperity of the state. However, the water resources available in a given area of the state can vary significantly depending on various hydrogeologic conditions that may affect base flow in streams, water quality and quantity as well as the prolificacy of local aquifers.

The highly variable nature of these resources means that a concerted effort must be maintained to collect related groundwater and surface water data that will allow proper decisions to be made regarding the management and development of the state's water resources. OLWR monitors groundwater levels of the state's major freshwater aquifer systems, and reports and potentiometric maps are created to document changes in water levels. Additionally, the OLWR conducts in-depth regional hydrologic investigations of Mississippi's groundwater resources to gain a better understanding of water supplies in regionally prioritized areas. The OLWR staff provides a wide range of information useful for planning economic development projects, groundwater modeling, and development of groundwater resources for public drinking water supplies.

The groundwater resources of Hinds County were studied in Fiscal Year 2023. The Sparta aquifer and Cockfield aquifer are the primary aquifers used to provide public water supply in Hinds County. Additional groundwater supply is drawn from the Forest Hill aquifer and the Meridian-upper Wilcox aquifer. Water levels were measured and compared with historical levels in these aquifers, with current levels used as part of a larger project to create statewide potentiometric surface maps for the primary drinking water aquifers of Mississippi. Cross-sections were completed to illustrate the location and depth of each aquifer interval in the area.

In Fiscal Year 2023, staff also completed a project to evaluate the water resources available in Madison County, where the Sparta, Cockfield, Meridian-upper Wilcox, and lower Wilcox aquifers are the primary source of water. Water levels in mostly public supply wells were measured and used in the creation of regional potentiometric surface maps of the aquifers, and updated hydrographs were made to illustrate changes.

MDEQ staff completed a similar project to evaluate the water resources available in Rankin County. Water levels and trends in the Sparta and Cockfield aquifers were studied as part of the work. Aquifer characteristics such as thickness and dip were illustrated with cross-sections running north to south and east to west through the county. Current water levels in Rankin County were part of potentiometric surface maps for both the Sparta and Cockfield aquifers.

Water-level data from wells in the Mississippi River Valley Alluvial aquifer is being collected and evaluated to monitor the effects of pumping and to assist in development of water management practices. The OLWR is also working with the U.S. Geological Survey to update, refine, and utilize the Mississippi Delta portion of an existing regional groundwater flow model developed by USGS. This large-scale regional model covers the entire Mississippi embayment and extends through the primary drinking-water aquifers as part of the Mississippi Embayment Regional Aquifer Study. This model will be used to better understand the groundwater flow system, the potential effects of variations in pumping patterns, and to evaluate various water resources management scenarios. New data continue to be collected for integration into the existing groundwater flow model.

OLWR continued to map the top of the Glendon Formation and the Moody's Branch Formation in the southern part of Mississippi. Cross-sections running from west to east and from north to south using information from these structure maps will create a framework to build into areas with little information. When completed, these maps will allow for the division of the aquifers of Miocene age into individual aquifer intervals.

USGS continuous stream gauging stations were monitored and mapped by the OLWR to evaluate low flow conditions in streams, or reaches of streams, to ensure the water bodies did not fall below their respective statistical low flow averages. During such low flow events, on-site streamflow measurements were made where necessary to validate special terms and conditions related to surface water permit requirements. OLWR staff are also participating in a project monitoring surface water levels in several wildlife refuges and wildlife

management areas in order to assist in a migratory birds assessment being conducted by the National Fish and Wildlife Foundation. OLWR is also working to evaluate surface water availability throughout the state using USGS stream gage data.

Water Resources in the Mississippi Delta

The future of the Mississippi Delta's economic and environmental viability depends on abundant, accessible water of sufficient quality. Over 18,500 permitted irrigation wells screened in the shallow MRVA are used for irrigation, aquaculture, and wildlife management purposes. Over time, pumpage demands have continued to exceed recharge to the MRVA leading to continued overbalances of groundwater withdrawals versus aquifer recharge, disconnected surface and ground water interaction, and notable water-level declines in the aquifer. To address serious threats to the viability of the Mississippi Delta's MRVA aquifer and Delta-wide stream flows, MDEQ created an executive-level task force to address these water resource challenges in 2011, and a 2014 Executive Order created the Governor's Delta Sustainable Water Resources Task Force.

The Delta Sustainable Water Resources Task Force and its workgroups consist of various state and federal agencies, stakeholder organizations, and academia all focused on the development and implementation of approaches and strategies to ensure sustainable ground and surface water resources for current and future generations in the Mississippi Delta. In Fiscal Year 2021, OLWR adopted a new general permit (MRVA-003), which updated conservation measures as a way to encourage continued adoption of water conservation practices via the permitting process. In Fiscal Year 2023, 1,958 permits and certificates of coverage under the general permit were issued with conservation requirements as part of the special terms and conditions of the permit and certificate of coverage. An online reporting portal developed by OLWR specifically designed to receive meter reading data from participants continues to yield valuable information that will be critical to improving total pumpage estimates and model accuracy.



Source Water Protection

OLWR Source Water Assessment Branch has the primary responsibility of coordinating groundwater quality protection efforts through the source water assessment program to notify public water supplies and customers of the relative susceptibility of their drinking water supplies to contamination.

The program also helps site the proper locations for new drinking water wells. OLWR staff worked closely with 1,414 public water systems, consisting of approximately 2,840 groundwater wells and five surface water intakes, to strengthen protection efforts of underground sources of public drinking water supply. Potential sources of contamination are identified for each individual city or town in each water supply protection area to use as support for planning decisions. Information gathering in the assessment process is incorporated into recommendations for actions that can be taken at the local level to protect drinking water sources.

Drillers Licensing

OLWR manages and maintains the testing and licensing of water well drillers. Applications for licenses are received along with verification of applicants' basic requirements through testing in accordance with state law and state regulations so current license holders are in compliance. During Fiscal Year 2023, the Drillers Licensing Program issued or renewed 212 licenses, and data for all water wells drilled in the state were added to a database management system. MDEQ staff taught a continuing education course regarding Mississippi drilling laws and regulations at three drilling conferences in Mississippi and one in Tennessee.

Mississippi Agricultural Chemical Groundwater Monitoring Program

Over 90 percent of Mississippi relies on groundwater for drinking water supply. Due to this dependence, there are concerns that agricultural chemicals may impact the valuable groundwater resources in the state. The Agricultural Chemical Monitoring Program determines what, if any, impact these practices may be having. For Fiscal Year 2023, OLWR staff sampled 60 water wells in a continuing effort to ascertain if agricultural practices are affecting the quality of groundwater aquifer systems statewide. This data is reported to well owners who have concerns about their domestic drinking water. As of Fiscal Year 2023, the program has sampled over 3,210 groundwater sources throughout the state, and to date, results indicate that no significant impacts to groundwater quality are directly attributable to agricultural practices.

DAM SAFETY

Fiscal Year '23 Accomplishment Highlights

Performed and/or reviewed 452 inspections on 342 dams, resulting in dam owners initiating repairs or rehabilitation on 6 High Hazard dams.

Reviewed and approved applications to modify two low hazard dams, to construct 10 new low hazard dams and one new high hazard dam.

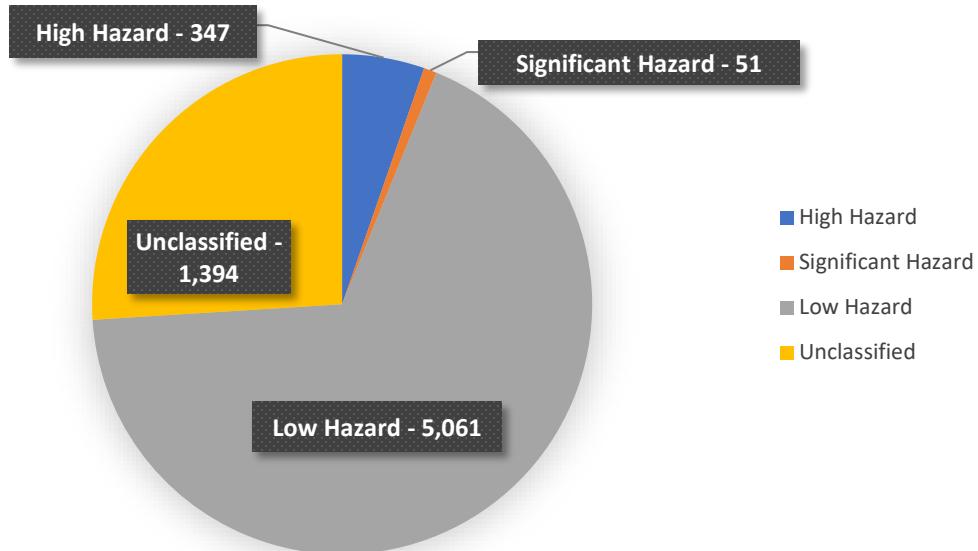
The state's dam safety regulations were implemented to protect life and property downstream of manmade dams. Dams are classified as either High Hazard, Significant Hazard, or Low Hazard in accordance with Dam Safety Regulations.

The OWLR Dam Safety Division reviews plans for repairs or modifications to existing dams, for the construction of new dams, conducts dam inspections, performs engineering analyses of dams, and reviews and approves Emergency Action Plans for High Hazard dams in addition to other duties.

Dam Safety Objective:
Protect downstream lives and property by ensuring that dams are properly classified, inspected, and maintained and include a current Emergency Action Plan as required.



Inventory of Dams



There are currently 6,853 dams on inventory in Mississippi including unclassified dams. Unclassified dams are dams upon which preliminary engineering analysis shows that it could potentially be either High or Significant Hazard, but further analysis is needed for proper classification.

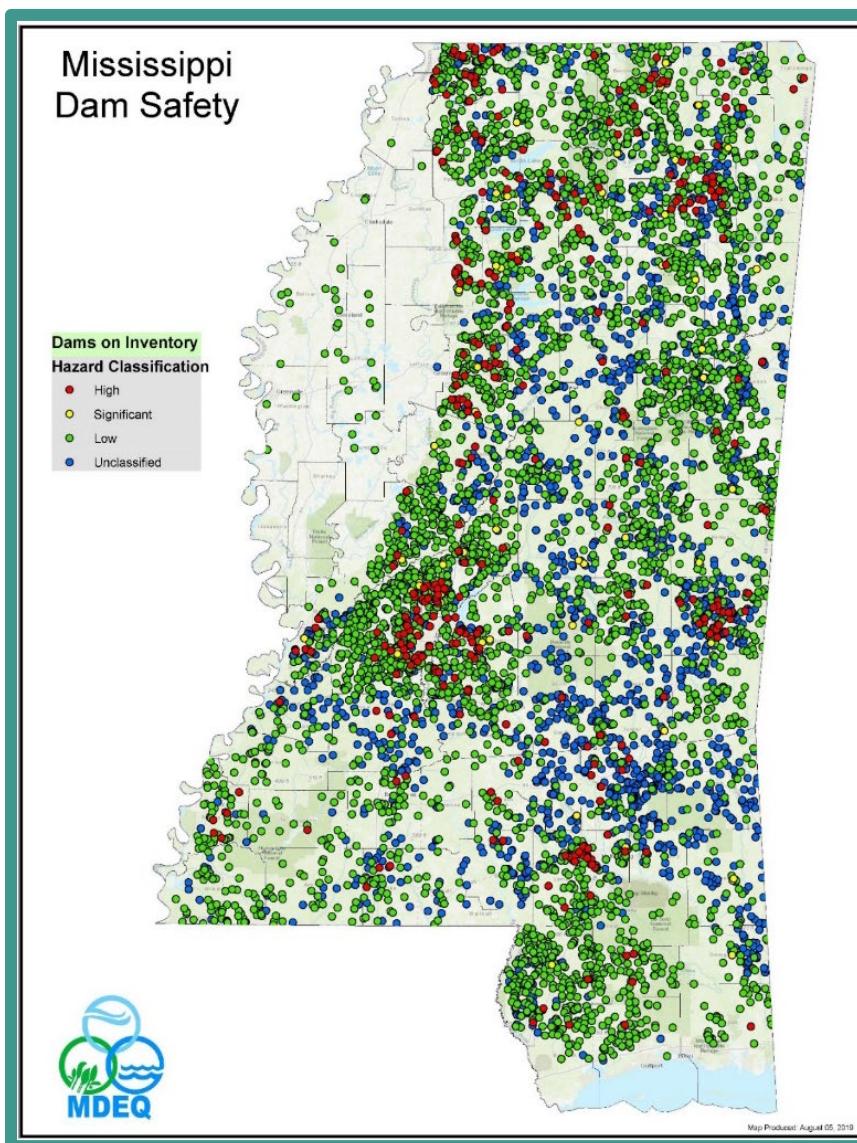
Regulations require that dam owners perform annual inspections of their High and Significant Hazard dams and have periodic inspections performed by a registered professional engineer at least once every five years. Dam owners are required to address any deficiencies noted during inspections resulting in applications to MDEQ for modification and/or rehabilitation. MDEQ also performs random inspections to verify that the conditions of the dams are being accurately reported in submitted inspection reports.

During Fiscal Year 2023, 452 inspections were performed on 342 dams, and the information produced by these inspections resulted in dam owners initiating repairs or rehabilitation on at least 6 High Hazard dams. The Division also reviewed and approved applications to modify two Low Hazard dams, to construct 10 new Low Hazard dams and one new High Hazard dam.

There are currently 319 EAPs on file for High Hazard dams, and the Division's goal is to have all owners of High Hazard dams submit EAPs for review and approval. Compliance with this goal presently stands at a Mississippi record high of 92%. The approval process includes review and approval at the county level by the local Emergency Management Agency and all

first responders that would be required to implement the plans. This procedure has extended the anticipated schedule for completing the documents, but the involvement of local agencies in the plan development greatly enhances the value of the plans in safeguarding lives and property in the event of a dam failure.

One of the other major duties of the Dam Safety Division is to respond to dam incidents and failures. During the 2023 Fiscal Year, staff engineers responded to a number of dam incidents and were able to mitigate each emergency successfully. During emergencies, the Dam Safety Division provides on-site response and technical assistance to county emergency managers and dam owners. There was one failure during the year of a low hazard dam reported after the failure had occurred during the year in Hinds County.



MDEQ's Dam Safety Division also oversees the Mississippi Dam Safety Grant Fund, a grant program designed to provide funding to high hazard dam owners for the rehabilitation or removal of high hazard dams. Since 2021, the program has distributed \$3,834,608 in state grant dollars to dam owners for repairs to 27 high hazard dams throughout the state. The award amount is limited to \$300,000 per project and requires a cost match of at least 35% from the dam owner. To date, almost half of the projects have been fully completed with the remaining 15 projects on track to be closed out by the end of SFY 2023.

PERMITTING



PERMITTING

MDEQ staff develop various types of environmental permits which are then presented to the Mississippi Environmental Quality Permit board for issuance. The Permit Board issues, reissues, modifies, denies, transfers, and revokes permits, and certifications administered under the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, the Surface Mining Control and Reclamation Act, state mining laws, state Solid Waste law, and state water resource control laws.

MDEQ's Office of Geology manages permitting activities under the Surface Mining Control and Reclamation Act. **The Office of Land and Water Resources** manages permitting activities under the water resources control laws. **The Office of Pollution Control's Environmental Permits Division** is responsible for Air Construction and Air Operating permits, Air Title V Operating permits, Wastewater - State No Discharge permits, Wastewater - NPDES permits, Wastewater - Pretreatment permits, Stormwater Construction and Operating permits, and Water Quality Certifications. **The OPC's Waste Division** is responsible for solid waste and waste tire permits, Beneficial Use Determinations, Emergency Debris management site approvals lagoon closure exemptions, Hazardous Waste operating and closure/post-closure care permits and generator ID numbers, and Underground Injection Control Program permits.

In Fiscal Year 2023:

- GEO - issued 25 initial and six amended permits.
- EPD - issued modified or renewed 108 air permits, 209 water discharge permits, 32 pretreatment permits, 67 state operating permits, and 43 Water Quality Certifications. In addition, EPD re-issued the Hydrostatic Test General Permit and the Hot Mix Asphalt General Permit in SFY2023. EPD issued or modified 445 general permit coverages and re-issued 787 re-coverages for sites that are regulated by General Permits.
- Waste Division - issued 13 solid waste management permits, five authorizations for emergency debris management sites, one waste tire processing permit, and six RCRA permit modifications or renewals; and
- OLWR - issued 2,263 groundwater withdrawal permits and 105 surface water withdrawal/diversion permits.

Currently there are more than 20,000 sites in the agency's permitting database. Many of these sites have permits that, by state and federal regulation, expire every five or ten years and must be reissued. As new companies enter the state and existing companies have changes or modifications, these activities also require permitting actions.

GEOLOGY



Office of Geology

Fiscal Year '23 Accomplishment Highlights

MDEQ's Office of Geology worked with the public, legislators, and the Governor's Office to successfully add Mississippi Opal to our state symbols as the Official State Gemstone of Mississippi.

A total of seven individual geologic quadrangles maps were published in Fiscal Year 2023. Deliverables published for the STATEMAP 2022 grant were three 7.5-minute geologic quadrangle maps.

Surface Geology worked with the Mississippi State University's Extension Service to design a syllabus and outdoor environmental activities for a club for the state's 4-H programs called the 4-H Geo/Arch Club.

Conducted 570 total mine inspections.

Mississippi Opal

Mississippi Opal became the Official State Gemstone of Mississippi on March 3, 2023, with the unanimous passage of SB2138. MDEQ Geologists discovered the precious opal in the Catahoula Formation in Claiborne County in 2004. More can be learned about Mississippi Opal on the MDEQ website under the Office of Geology link.



Surface Mining and Reclamation of Surface-Mined Lands

Reclamation Objective:
Ensure lands impacted by mining activities are restored to reclamation standards that are protective of human health and the environment.

MDEQ's Office of Geology regulates all non-coal surface mines in the state as provided for in the Mississippi Surface Mining and Reclamation Act of 1977. This includes issuing surface mining permits and notices of exempt operations, inspecting permitted areas and complaints, overseeing the reclamation performed by operators, and enforcing the law as per the promulgated Rules and Regulations and Commission orders. Additionally, coal and lignite mines are regulated under the Mississippi Surface

Coal Mining and Reclamation Law of 1979, with oversight of the program by the federal Office of Surface Mining Reclamation and Enforcement. In Fiscal Year 2023 the Division produced 535 annual inspections and 35 bond release inspections.

The Mining Division recommended to the Permit Board the issuance of 25 initial and six amended permits and received 34 Notices of Exempt Operations (operations less than four acres in size). A total of 2,260 exempt operations are on file, covering approximately 9,040 acres. A total of 1,627 bonded acres were completely reclaimed as a result of the division's efforts to oversee reclamation. The state currently has 582 permits covering approximately 35,562 acres.

The Mining and Reclamation Division provides the required Mine Safety and Health Administration (MSHA) training for mining operations in the state. MSHA regulations require New Miner Training as well as an eight-hour Refresher Training course be taught to all mine workers. In Fiscal Year 2023, the staff provided 36 New Mining and Annual Refresher Certifications.

The Mining and Reclamation Division continues to focus on the complexities of coal mine regulation. Mississippi has an industry-estimated five billion tons of surface mineable lignite, a low-grade coal ranked just below sub-bituminous coal. The Mississippi Lignite Mining Company is mining lignite at the Red Hills Mine in Choctaw County to supply fuel for an adjacent 440-megawatt (MW) mine-mouth power plant. The mine produces over 3.5 million tons of lignite per year and has a permitted 6,090 acres. This permit (MS-002) was initially issued in 1998 and was renewed in February 2017 for its fourth five-year return. The planned life of the mine is 30 years. In January of 2020, a new surface coal mining permit (MS-004) was issued to the Red Hills Mine for an additional 4,190 acres. In FY 2023 MS-002 and MS-004 were combined into MS-005.

The Liberty Fuels, LLC mine permit (MS-003) in southwestern Kemper County was issued in December 2011 for 2,299 acres. This permit was renewed in 2016. The Liberty Mine was to produce an average of 2.2 million tons of lignite per year for the initial five-year term, and 4.5 million tons per year for the planned 40-year life of mine. In 2017, Mississippi Power Company discontinued the coal gasification process and elected to operate the power plant exclusively on natural gas. In 2018, MDEQ approved a modification to the surface coal mining permit, fostering the reclamation of the site. Reclamation activities at the site are ongoing in Fiscal Year 2023 and will continue in Fiscal Year 2024.

Staff site inspections of all three surface coal mining permits are conducted at least monthly. One or more joint inspections of each mine are conducted annually with the Office of Surface Mining, Reclamation and Enforcement. It is anticipated that at least three applications for permit revisions will be submitted and at least two bond release applications are anticipated during Fiscal Year 2024.

Work under Mississippi's Abandoned Mine Land Program to identify and locate abandoned historic coal mines identified four sites - two in Choctaw County and one each in Winston and Lauderdale counties. Reclamation work at the sites was completed in June 2018. In Fiscal Year 2024, the program anticipates reclamation of AML sites on 16th Section lands in Covington and Simpson Counties.

Geological Data Collection Activities

Geologic Mapping

The primary charge of the Surface Geology Division is the Geologic Mapping Program, with the goal of mapping the entire state on 7.5-minute quadrangle sheets at a scale of 1:24,000. Completed maps are available in digital form online and as printed copies published in the Office of Geology's Open-File Report series. Geologic maps are fundamental to characterizing the environment. Mapping at a 1:24,000 scale provide the detailed geologic information needed for environmental land-use decisions in municipal planning; to locate recharge areas for groundwater supplies; to locate mineral resources; aid in pollution prevention and effective mitigation; land management and protecting property from geologic hazards such as landslides, swelling clays, and floods; and to support academic research in ecology, paleontology, and archaeology.

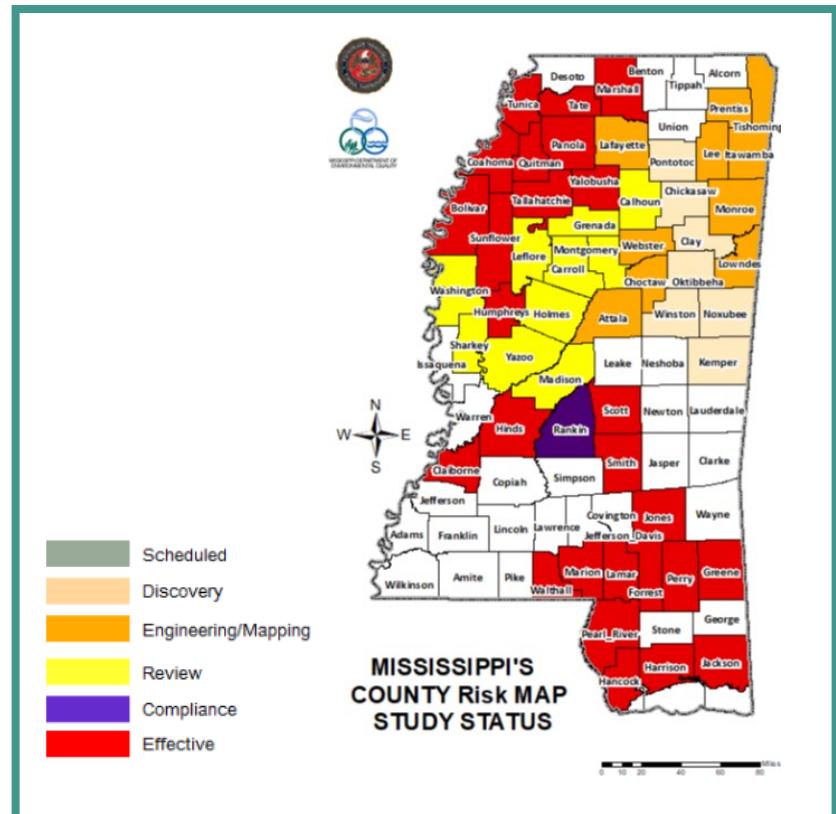
The geologic mapping program for Fiscal Year 2023 was funded in part by a United States Geological Survey Mapping (STATEMAP) grant and a federal contract with the National Park Service. The STATEMAP component establishes the geologic framework of areas that are vital to the welfare of individual states. Each State Geologist determines the state's mapping priorities in consultation with a State Mapping Advisory Committee. These priorities are based on state requirements for geologic map information in areas of multiple issue needs or compelling single-issue needs and in areas where mapping is required to solve critical earth science problems.

A total of seven individual geologic quadrangles maps were published in Fiscal Year 2023. Deliverables published for the STATEMAP 2022 grant were three 7.5-minute geologic quadrangle maps. Geologic mapping for the National Park Service is being funded by a two-year renewable contract for the completion of detailed geologic quadrangle maps along the Natchez Trace Parkway. Deliverables for the National Park Service include the publication of three individual geologic quadrangles maps. Additional work is also being performed for the national Park Service by Mississippi State University and published in cooperation with the Surface Geology Division. One additional unfunded 7.5 min. geologic quadrangle map was also published by Surface Geology staff as part of a graduate thesis.

Detailed geologic Quadrangle mapping continues for the ultimate purpose of a revision of the 1969 State Geologic Map at a scale of 1:500,000. Completed maps are available to the public for free download in digital form at www.mdeq.ms.gov and as printed copies published in the Office of Geology's Open-File Report series.

Flood Mapping

The Office of Geology's Geospatial Resources Division is focused on remote sensing and geographic information systems activities and manages the Mississippi Flood Map Modernization Initiative and the Mississippi Risk Mapping, Assessment and Planning. The Risk Map program develops and updates digital flood insurance rate maps for the 82 counties under funding from FEMA. In 2023, the Division currently has 11 active HUC_8 Watershed Flood studies affecting flood maps in portions of 49 counties, three LAMP projects (Levee Analysis and Mapping Plan) involving portions of six counties and 24 ongoing HUC_8 BLE (Base Level Engineering) studies.



The Office of Geology's Geospatial Resources Division

The Geospatial Resources Division is responsible for Mississippi Digital Earth Model's development. MDEM develops digital geographic information that will serve as the state base map and consists of eight layers of digital information. MDEQ manages and monitors the MDEM data development contracts and the Quality Assurance of the mapping products that result from this work. Products will be used by state and local governments, engineering firms, and construction companies involved in planning, development, construction, or regulatory work throughout the state. Late in 2022, the Division received its copy of over 6,600 square miles of QL2 (.7 meter) LiDAR collected and processed by USGS contractors and funded by the National Resources Conservation Service as part of the National 3DEP program. The LiDAR covered areas in central and northeastern Mississippi. During the 2022-2023 winter leaf-off season MDEQ contractors collected six-inch, four band, color orthoimagery over the central 1/3rd of the state. The data is expected to be delivered in late 2023. This project totals approximately 16,500 square miles and covers 25 counties. A third project completed in mid-2023 was the collection and creation of a statewide database of all 82-county parcel/land ownership data sets. All orthoimagery, Lidar and county parcel/land ownership data acquired by the Division is considered a part of MDEM and will be made available to all state, county and federal governmental agencies, as well as engineering firms, public businesses and individuals.

Environmental Geology

Since the 1950s, the Office of Geology has been collecting subsurface geological information by sending scientific instruments down test holes and water wells to record data on rocks and groundwater.

Environmental Geology Division staff logged 51 test holes and water wells during Fiscal Year 2023 and collected 31,434 feet of data on test holes that otherwise would not have been wireline logged. These geophysical logs were run for 14 different entities from industry, academia, and the Mississippi Office of Geology. Division personnel maintained the core and sample library by cataloging and archiving samples from oil and gas tests drilled in the state.



Publications

During FY 2023, 16 papers were published.

- Seven abstracts in the *Mississippi Academy of Sciences Journal* for 2023
- One professional paper in the journal *Paleoichthys*
- Eight papers in the *Mississippi Geological Society Bulletin*

Also published in FY 2023 were seven geologic quadrangle maps.

- 7.5-minute Geologic map of Brownsville
- 7.5-minute Geologic map of Coxs Ferry
- 7.5-minute Geologic map of Pheonix
- 7.5-minute Geologic map of Starkville
- 7.5-minute Geologic map of Pine Ridge
- 7.5-minute Geologic map of Washington
- 7.5-minute Geologic map of Natchez

COMMUNITY ENGAGEMENT



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The Office of Community Engagement coordinates with municipalities, industries, the public, and other regulators to create partnerships to allow shared accountability in developing strategies to address environmental concerns. The OCE remains committed to assisting agency programs in addressing environmental impacts, connecting stakeholders to resources, and providing platforms for meaningful involvement through the coordination of a variety of community engagement activities. OCE also

develops educational materials, training and other resources for community members, organizations, and local governments on a range of environmental issues.

Environmental Justice Program

The OCE's Environmental Justice Program continues to assist various agency programs with addressing environmental impacts across Mississippi. During Fiscal Year 2023, OCE hosted and/or participated in 82 local, regional, or national training courses to continue to address EJ concerns in the State of Mississippi. OCE attended 24 in-person events in response to direct requests for EJ assistance and education made by local communities, Institutions of Higher Learning, and other agencies. Additionally, OCE directly collaborated with the MDEQ Environmental Permits Division to provide recommendations for 22 projects with potential EJ concerns that were seeking permits, modifications, and/or renewals to mitigate conceivable impacts and ensure meaningful community involvement.

Small Business Environmental Assistance Program

The Small Business Environmental Assistance Program (SBEAP) provides information about regulations, programs, and resources that are of importance to small businesses. The MDEQ staff responded to approximately 210 requests for permitting or compliance assistance and other general environmental information. Responses to specific permitting and compliance requests for assistance have resulted in various opportunities to provide one-on-one training for businesses owners and municipal leaders who are unable to secure professional services for technical assistance. In FY2023, the SBEAP participated in over 70 national and regional trainings and workshops and continues to expand collaboration efforts to reach small businesses throughout the state.

- Dry Cleaner Compliance Calendar Outreach

Facilities subject to the Perchloroethylene Dry Cleaner Regulations receive the Compliance Monitoring Calendars annually to help them maintain compliance with the monitoring and record keeping requirements of the regulations. Mississippi has approximately 45 facilities that are subject to these requirements.



- Mississippi Municipal League Conference Outreach

The Mississippi Municipal League (MML) is an organization that advocates for and helps approximately 289 cities and towns excel by providing training and networking opportunities. In June of 2023, MML held their annual conference which attracted over 3,500 municipal elected officials, municipal employees, state agency representatives, legislators, and exhibitors. The SBEAP partnered with the Brownfields Program during a MDEQ hosted segment of the conference to discuss various assistance programs offered by the agency. Promotional materials describing the program were prepared and disseminated to conference attendees to share with their small business owners and communities.



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