MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Annual Report Fiscal Year 2024

STRATEGIC GOALS

This annual report seeks to correlate the following goals of the agency's strategic plan with the results of its work in state fiscal year 2024.

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.

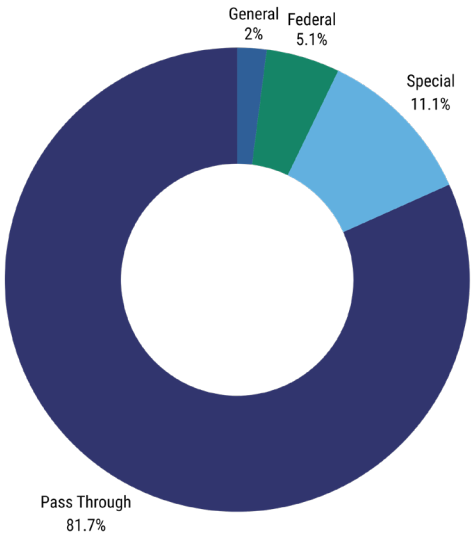
Water Quantity Goal: Maintain sustainable quantities of surface and ground water in Mississippi.

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 2024 BUDGET



- **General:** $15,500,411
- **Federal:** $39,093,036
- **Special:** $84,857,985
- **Pass Through:** $623,399,718

Total: $762,851,150

FROM THE EXECUTIVE DIRECTOR

I am honored to present to you the Mississippi Department of Environmental Quality's Annual Report for the state fiscal year 2024. As stewards of our state's air, land and water resources, we remain steadfast in our commitment to protecting human health and preserving Mississippi's natural 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 our notable accomplishments:

- ***Presented the 2023 Mississippi Restoration Summit, both in person and virtually (p. 6)***
- ***Handled 935 calls for emergency response assistance (p. 15)***
- ***Continued to attain all National Ambient Air Quality Standards throughout the state (p. 16)***
- ***Reported 5.9 million tons of waste disposed at permitted landfills and rubbish sites (p. 25)***
- ***Conducted approximately 1,185 air and water on-site inspections (p. 41)***
- ***Funded nine new WPCRLF projects totaling $64.6 million (p. 41)***
- ***Completed a total of 16 Targeted Brownfield Assessments (p. 49)***
- ***Issued and renewed 206 driller licenses in the state (p. 54)***
- ***Conducted 466 dam inspections (p. 59)***
- ***Issued over 3,540 permits (p. 61)***
- ***Published 39 papers and seven geologic quadrangle maps from the Office of Geology (p. 62)***

These achievements exemplify our ongoing commitment to conserving and improving Mississippi's abundant natural resources while fostering wise economic growth and resilience across the state.

I invite you to explore the information contained in this report, which provides an overview of our activities, initiatives, and impact. This document reflects the hard work of our entire MDEQ team and underscores our ongoing efforts to protect the environment for current and future generations.

As we look toward the future, we remain dedicated to our shared goals and look forward to addressing Mississippi's environmental challenges and opportunities together. Through our combined efforts, we will continue to make a lasting, positive difference for all Mississippians.

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

Sincerely,

Chris Wells
Executive Director
Mississippi Department of Environmental Quality

The **mission** of MDEQ 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.

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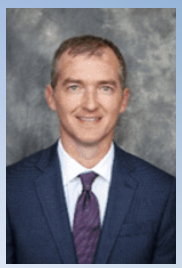
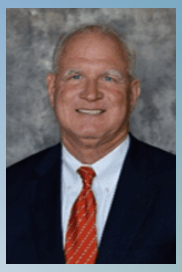
All data reported by state fiscal year unless otherwise noted.

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.



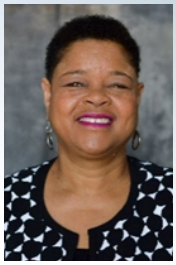
Chairman
Patrick L. Johnson, Jr.



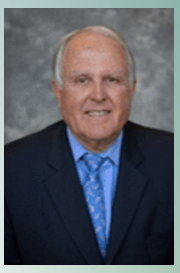
Vice Chairman
Chat Philips

Jack Winstead

W.J. (Billy)
Van Devender



Brenda Latham



John Dane III

Kent Parrish, Jr.

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 CWA, Clean Air Act, Resource Conservation and Recovery Act, Surface Mining Control and Reclamation Act, state mining laws, and state water resource control laws.

Chairman
Doug Mann

Vice Chairman
Chris Hawkins

Les Herrington

David Dockery

Jennifer
Wittman

Chris McDonald

David
Snodgrass

RESTORATION

Highlights

- *Presented the 2023 Mississippi Restoration Summit in person and virtually.*
- *NFWF-GEBF awarded grants for 34 projects in Mississippi for an approximate total of $211 million.*
- *23 approved projects/programs for the State Expenditure Plan.*

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 nongovernmental organization are working to implement multiple projects and initiatives to restore the natural resources of the Gulf of Mexico region.

MDEQ's **Office of Restoration** oversees and manages all aspects of restoration funded through the Natural Resources Damage Assessment process, the Resources and Ecosystems Sustainability, Tourist Opportunities and Revived Economies of the Gulf Coast States Act, and the National Fish and Wildlife Foundation – Gulf Environmental Benefit Fund. 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 can 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 and infrastructure projects.

Mississippi Restoration Funds

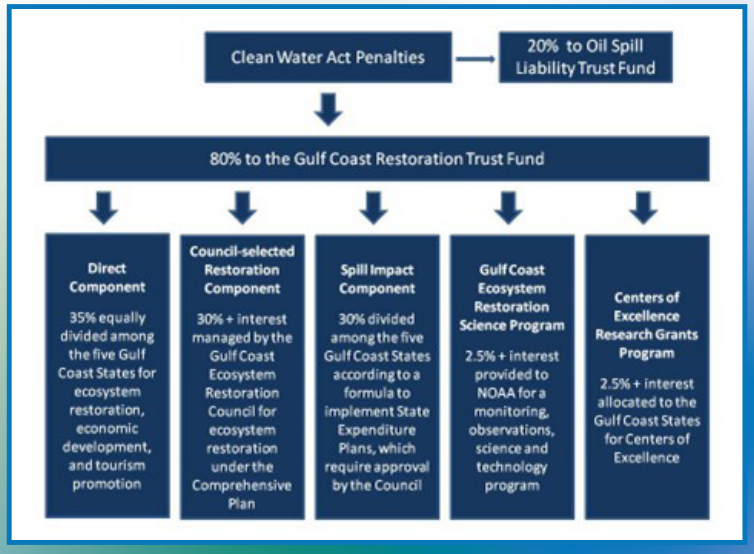
As a result of the oil spill and settlement of claims, MDEQ is managing approximately $1.45 billion of the $2.1 billion Mississippi will receive to support recovery and restoration efforts. These funds are allocated to the state from civil and criminal penalties levied against the responsible parties 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, $91.6 million has been allocated to Mississippi.
- **Spill Impact Component** (Bucket 3) - $304.8 million
- **Centers of Excellence Research Grants Program** (Bucket 5) - $28.9 million
- **NFWF-GEBF** - $356 million paid by the responsible parties to the GEBF
- **Natural Resource Damage Assessment** - $296 million

The RESTORE Act

The RESTORE Act makes available 80% of CWA 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 of Mexico 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 2023, the committee recommended projects for consideration in Amendment 7 to the Multiyear Implementation Plan and State Expenditure Plan.

The committee's seven subcommittees' recommendations resulted in 15 new projects totaling $44 million selected and announced by Governor Reeves in October 2023. The addition of these projects to the projects selected by Governor Reeves brings the total to $227 million during this administration.

Direct Component (Bucket 1)

Multiyear Implementation Plan

In June 2024, the U.S. Department of the Treasury accepted Amendment Number 7 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 Number 7 included the following eight updates totaling approximately $28.9 million in 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 developing future MIP amendments and applications.
- Hancock County Fairgrounds Revitalization ($3.5 million in additional funding) – for enhancements to site amenities.
- The Kiln Utility District and Fire District Kapalama Road Water Improvements ($1.9 million in additional funding) – for improvements to meet current and future water demands.
- Highway 609 Washington Street Gateway Phase II ($5.5 million in additional funding) – to construct pedestrian friendly features including sidewalks, a crosswalk, and landscaped median under Phase II from Old Fort Bayou to Highway 90.

- Point Cadet Marina Improvements Phase II ($5.5 million) – for improvements to the Point Cadet Marina to stimulate additional economic activity and redevelopment.
- Gulfport-Biloxi International Airport Construction Rehabilitation and Overhaul Facility ($6.6 million in additional funding) – to construct an aircraft maintenance, repair, and overhaul facility and apron.
- Mass Audience Safety and Security Technology ($1.8 million in additional funding) – to implement transformational security improvements to the Mississippi Gulf Coast Coliseum and Convention Center.
- There are 43 accepted projects on the MIP.

Council Selected Component (Bucket 2)

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 FPL 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 2024, 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 ten updates totaling approximately $20.125 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 SEPs.

- Invasive Species in Water ($1.1 million) – to reduce and remove invasive species in coastal waterbodies, marshes, and estuaries.
- Pascagoula River Scenic Trail ($2.75 million) – to establish a blueway and recreational improvements along the Pascagoula River for nature-based tourism.
- One Gulf One Goal Artificial Reef Project ($1.98 million) – to construct artificial reefs.

- Coastal Education Program in Mississippi High Schools ($1.32 million) – to enhance environmental science programs related to marine ecosystem education.
- Addition of Interactive Exhibit ($4.5 million) – to the Mississippi Aquarium for education and tourism.
- KHSA Taxilane Sierra Extension ($1.925 million) – to extend Taxilane Sierra at Stennis International Airport to allow for increased capacity and economic development.
- Classrooms and Dormitories for the Center for Marine Education and Research ($2.75 million) – to construct dormitory and classroom facilities to promote teaching and research at the Institute of Marine Mammal Studies.
- Working Waterfront and Commercial Seafood Harbor Project Phase II ($2.2 million) – supports the development of a working waterfront in D'Iberville.
- Natural Gas Improvements ($1.1 million) – City of Waveland to replace natural gas line.
- There are currently 30 approved projects/programs for the SEP.

Centers of Excellence Component (Bucket 5)

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 that were competitively selected among researchers from all member universities.

In April 2023, the initial MBRACE grant (MBRACE I) reached the end of its performance period, and close out activities 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 has completed its selection process for MBRACE's next round of Core and Competitive research projects. Research through these projects is underway and continues to focus on areas of restoration interest such as oyster management and water quality in the Mississippi Sound.

National Fish and Wildlife Foundation

Mississippi will benefit from $356 million because of the CWA 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 $211 million.

In 2023-2024 the following projects are in engineering and design:

- **Point Cadet Living Shoreline & Reef ($410,000)** - This project focuses on permitting, engineering, and designing an emergent breakwater structure and submerged reefs at Point Cadet along the Biloxi Waterfront Park to provide shoreline protection as well as benthic habitat for invertebrates and fish. The breakwater will promote accretion of sediments against the shoreline and allow for the natural recruitment of vegetation to establish marsh habitat. Subtidal reefs will be designed to maximize secondary productivity as well as maximize habitat for sedentary produces like oysters and mussel and refugia for mobile invertebrates, crabs, and juvenile fish. Engineering and design for the project is nearly complete, with the 60% design already reviewed and accepted. Permits have been submitted to the relevant regulatory agencies, and we are currently awaiting their feedback and comments.
- **West Hancock County Living Shoreline and Reef ($1.40M)** - This project focuses on permitting, engineering, and design of a series of artificial reefs and oyster beds to create approximately 25 acres of sub-tidal habitat in Hancock County. This project will enhance nearshore habitats, specifically, submerged sub-tidal reefs to increase living coastal marine resource productivity, including both mobile and sessile secondary producers including red and black drum, spotted seatrout, crabs, and oysters. Engineering and design for the project is nearly complete, with the 60% design package submitted and approved. Permit applications have been submitted to the regulatory agencies, and comments from USACE and MDMR have been received and addressed.

Natural Resource Damage Assessment

The Deepwater Horizon Natural Resource Damage Assessment 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.

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 Deepwater Horizon Trustee Council completed the Final Programmatic Damage Assessment and Restoration Plan and Programmatic Environmental Impact Statement that 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.

Restoration Plan IV

In 2024, the MS TIG finalized Restoration Plan IV, selecting $26 million in new projects. Projects will begin implementation in 2025:

- **Coastwide Habitat Acquisition ($5.0 million) Project** - to acquire lands in coastal areas for conservation that have high ecological value or where future ecological restoration projects could be located.
- **Living Shoreline Bulkhead Alternative ($3.0 million) Project** - to construct small scale living shoreline(s) that would reduce erosion and incorporate vegetation and other living, natural, or soft elements alone or in combination with harder protection. These will be constructed in areas with high public visibility, providing private landowners with the opportunity to observe and learn about bulkhead alternatives.
- **Hancock County Marsh Living Shoreline ($10.5 million)** – to construct up to 1.7 miles of additional breakwater in the Mississippi Sound as phase six of the Hancock County Marsh Living Shoreline project at the Hancock County Marsh Preserve.
- **Back Bay- Davis Bayou Nutrient Reduction ($2.5 million)** - to improve water quality in Mississippi Sound by implementing conservation practices intended to reduce nutrient runoff and sediment in the Back Bay of Biloxi and Davis Bayou-Biloxi Bay Watersheds.
- **Big Cedar Creek- Rocky Creek Nutrient Reduction ($2.5 million)** - to improve water quality in the Mississippi Sound by implementing conservation practices intended to reduce nutrient runoff and sediment in the Big Cedar Creek and Rocky Creek Watersheds.
- **Jourdan River Boardwalk ($2.1 million)** - to fund the construction of a public boardwalk along the Jourdan River to provide residents and visitors with access to information about the tidal ecosystem in coastal Mississippi.
- **Shepard State Park Recreational Enhancements ($735,000)** – to provide funding for improvements to enhance recreational use and access to natural resources at Shepard State Park.

EMERGENCY RESPONSE

Highlights

- *Provided statewide emergency response coordination on a 365-day, 24/7 basis.*
- *Handled approximately 935 calls for assistance.*
- *Used environmental contractors for response actions totaling $397,525, and the agency recovered approximately $310,000 from responsible parties.*

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 935 calls for assistance in fiscal year 2024. Contractor expenditures for response actions totaled $397,525, and the agency recovered approximately $310,000 from responsible parties.

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

MDEQ maintains the resources and readiness to quickly and effectively support local communities and emergency response personnel should an environmental or public health emergency occur. This readiness is accomplished by training alongside regional response teams; 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 and radioactive materials and biohazard emergencies by participating in advanced-level courses and exercises.

POLLUTION CONTROL

Air Division

Highlights

- *Maintained all National Ambient Air Quality Standards throughout the state.*
- *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.

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

- Determines if areas are meeting the NAAQS for ground-level ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO).
- Generates data to assist in determining methods to reduce visibility impairments.
- Supports ozone reduction programs.
- Determines general air quality trends.

EPA began setting NAAQS for the criteria air pollutants over 50 years ago and has subsequently reviewed them many times. EPA has chosen to retain the original CO standard and has only revised the NO_2 standard in 2010. EPA considers all Mississippi counties as attaining the current NO_2 and CO standards and has designated them as such. EPA made significant changes to the SO_2 standards in 2010, lowered the annual $PM_{2.5}$ standard in 2012, and lowered the ozone standard in 2015.

To address the primary SO_2 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 SO_2 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 (the R.D. Morrow Senior Generating Plant operated by Cooperative Energy). During fiscal year 2024, EPA approved MDEQ's request to terminate the Data Requirements Rule Annual Reporting for the Cooperative Energy R.D. Morrow Generating Station Facility in Lamar County, Mississippi. There is also a secondary SO_2 standard, which EPA has retained for many years now and Mississippi continues to attain that standard.

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, $PM_{2.5}$*

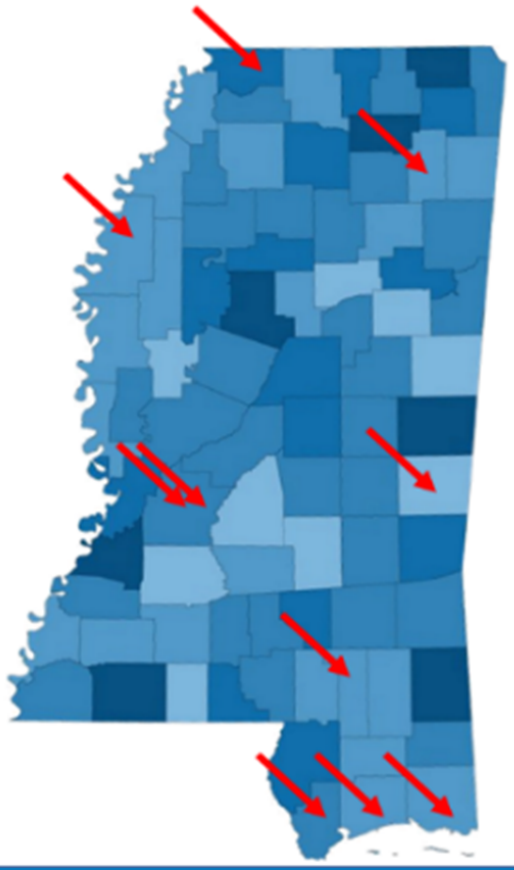
Jackson (N-Core) - *Ozone, $PM_{2.5}$, PM_{10}, CO, NO_y, SO_2*

Meridian - *Ozone*

Pascagoula - *Ozone, $PM_{2.5}$, CO, NO, NO_2, NO_x, SO_2*

Tupelo - *Ozone*

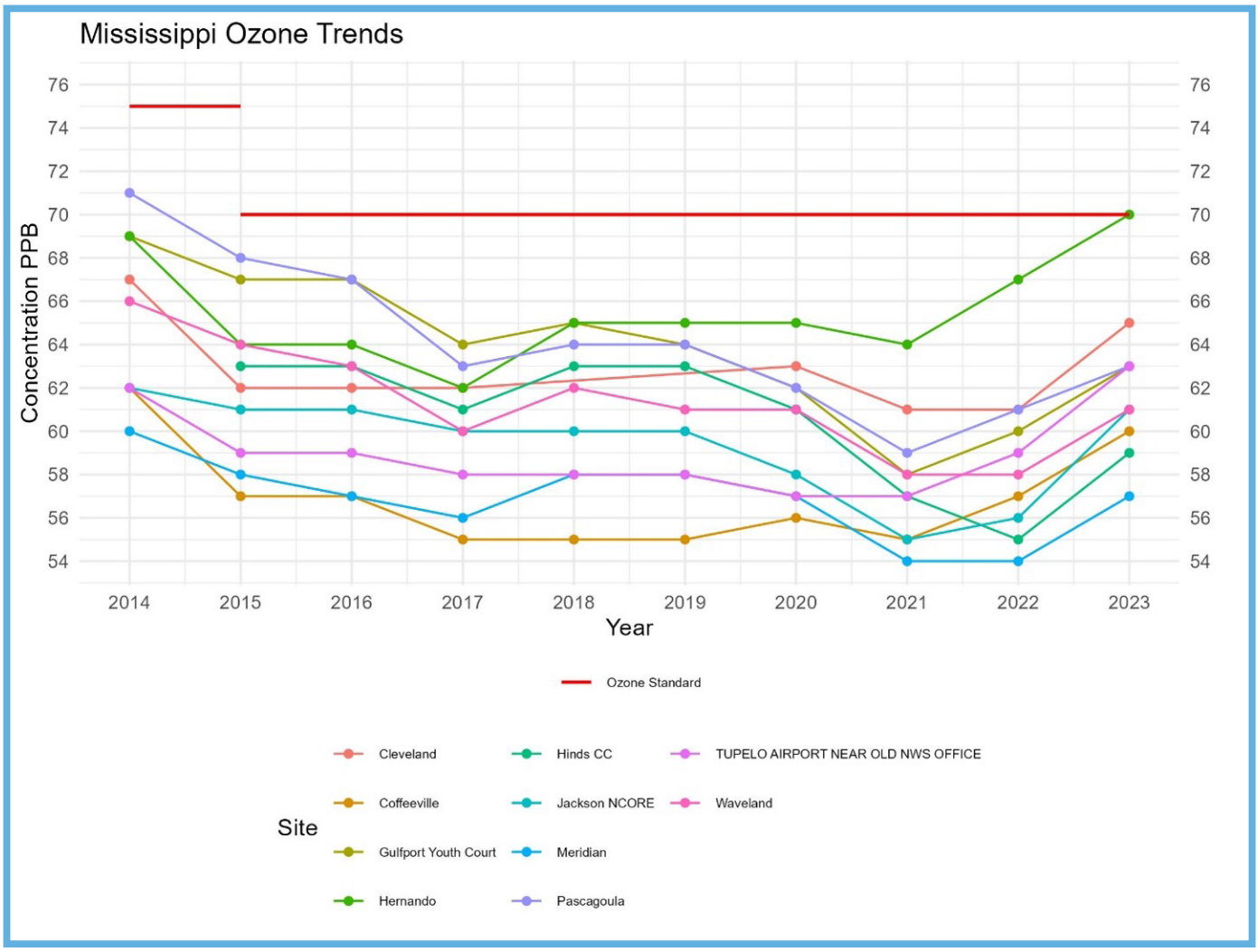
Waveland - *Ozone, $PM_{2.5}$*



EPA has both primary and secondary 24-hour and annual standards for very fine particulate matter or $PM_{2.5}$, and primary and secondary 24-hour standards for PM_{10}. Mississippi is meeting these standards and has been designated as such by EPA.

The EPA has revised the NAAQS for $PM_{2.5}$. The primary annual $PM_{2.5}$ standard has been lowered from 12.0 µg/m³ to 9.0 µg/m³. The existing primary 24-hour $PM_{2.5}$ and PM_{10} standards, as well as the secondary $PM_{2.5}$ and PM_{10} standards, remain unchanged. Additionally, the EPA has finalized revisions to the Air Quality Index and monitoring requirements for PM NAAQS. This rule went into effect on May 6, 2024. For more information on these revisons, visit www.epa.gov/pm-pollution/final-reconsideration-national-ambient-air-quality-standards-particulate-matter-pm.

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.



In fiscal year 2024, 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. The EPA has recently attempted to take control of planning efforts associated with the 2015 ozone NAAQS in many states across the country, including Mississippi, but MDEQ continues to work to develop approvable plans to keep Mississippi as the lead in these planning efforts.

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 AQI (provided above) 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 uses the forecasts to keep the public informed about the status of air quality, issue health advisories, and 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 I 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 efforts were focused on developing the necessary modeling to identify sources for inclusion in Regional Haze SIPs, efforts in fiscal year 2024 included preparing the final draft of the Mississippi

Regional Haze SIP for the current (second) planning period, including addressing public comments received in fiscal year 2023. MDEQ plans to finalize and submit the plan to EPA in fiscal year 2025.

Title V Operating Permit Program

The CAA 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 245 sources in the state. Mississippi law requires the establishment of the Title V Advisory Council (Council) to evaluate the costs of the program, recommend an equitable fee system, and 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 (Commission). 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 2024, the emissions portion fee rate was $32 per ton of regulated air pollutants and a tiered complexity portion, which generated approximately $3.67 million for Mississippi's Title V program. There were 36 Title V permits issued, including initial issuances, renewals, and modifications. There was also two 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 133 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 2024, the Emissions Inventory Branch within the Air Division completed and submitted the emissions inventory for the 2022 calendar year. In addition, data for the 2023 emissions inventory was requested. As a result, this inventory is being reviewed and compiled for submittal by January 2025. The Emissions Inventory Branch also began the process of migrating to a new inventory system maintained by EPA, which allows access to external users for entering and submitting their annual emissions information electronically. This transition to the new inventory system includes an onboarding phase that began in fiscal year 2024, during which the new inventory system was used to collect 2023 emissions data for select sources. Full 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-energy buses. The DERA-funded Mississippi Diesel School Bus Replacement Program began in 2014 and has since awarded over $2.9 million to 69 school districts for the purchase and replacement of 170 school buses. In fiscal year 2024, MDEQ selected 17 school districts to receive a rebate of up to $22,436 per bus to help replace 24 older diesel school buses with new, cleaner-energy 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 2024, MDEQ inspected 326 demolition and renovation projects, investigated 46 complaints, certified 1608 applicants to perform asbestos activities, and inspected five 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 of the Safter Communities by Chemical Accident Prevention rule were published March 2024.

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

changing universe of regulated sources, and evaluates each RMP during compliance inspections. During fiscal year 2024, there were 144 active regulated facilities, and staff completed 27 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. At this time, MDEQ is evaluating both rules as to how they will impact the applicable sectors in Mississippi.

On December 2, 2023, EPA finalized the "Oil & Gas Rule" that established new regulations for the oil and gas sector (both new sources and existing sources) to address greenhouse gas emissions. On April 25, 2024, EPA finalized the "Power Plant Rule" that established new regulations for fossil-fuel fired electric generating units via steam (both new sources and existing) to address greenhouse gases.

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. Volkswagen 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. Through fiscal year 2024, ten projects have been completed.

Waste Division

Highlights

- *Reported 5.9 million tons of waste disposed at permitted landfills and rubbish sites.*
- *Collected over 11,000 pounds of household medical sharps.*
- *Awarded $4.4 million for solid waste management and recycling projects, solid waste planning projects, and waste tire projects.*

MDEQ's **Waste Division** 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 envrionment 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 a delegation from EPA to oversee and implement most of the federal Hazardous Waste Management programs in Mississippi for discarded materials that have characteristics making 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.

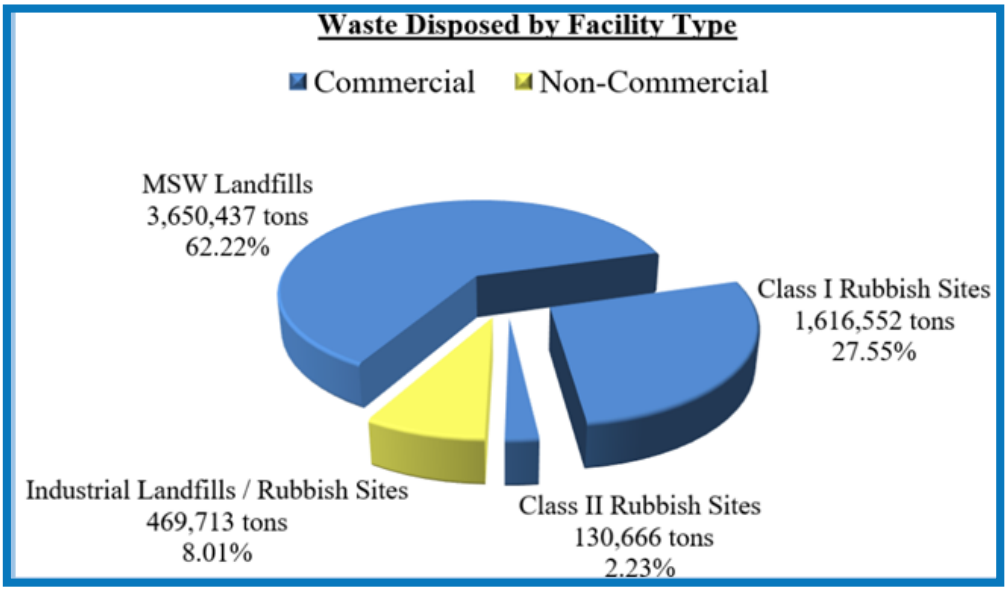
Mississippi Solid Waste Management and Disposal

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 2024, MDEQ collected annual reports from facility owners for the solid waste management activities conducted during the previous calendar year. These reports indicate that just over 5.9 million tons of waste were disposed at permitted landfills and rubbish sites in calendar year 2023. Approximately 5.5 million tons were disposed at commercial facilities with over 3.6 million tons (66%) disposed at commercial landfills and approximately 1.8 million tons (34%) at commercial rubbish sites. Approximately 376,868 tons of the total wastes were disposed at non-commercial disposal facilities. Solid waste disposal facilities received just over 1.3 million tons of waste from out-of-state sources representing approximately 22% of the total waste disposed at solid waste disposal facilities.

In addition, a total of approximately 18,512 dry tons of wastes were applied at permitted land application sites in calendar year 2023, and approximately 46,000 tons of material were received at solid waste composting and mulching facilities. The calendar year 2023 annual reports also indicated that nearly 99,000 tons of material were received for management at solid waste processing facilities and nearly 863,000 tons of wastes were 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 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 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.

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% of the state's population, and of this, 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.

In September 2023, MDEQ was awarded federal funding through the EPA Solid Waste Infrastructure for Recycling Grant program. The grant award is for over $592,000. In the grant application, MDEQ's Waste Division staff laid 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. Also, MDEQ is looking into investing state funding into future phases of this project through the Regional Recycling Grant Program. Monies from this fund in excess of $1 million were 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.

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 provides an updated list of materials recovery facilities in Mississippi and neighboring 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 providing information on 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, assist, and encourage other state agencies to enhance or revive their recycling programs.

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.

Solid Waste Assistance and Waste Tire Grants Programs

The Waste Division manages various solid waste assistance and waste tire grant programs. MDEQ awarded over $4.4 million in fiscal year 2024 for solid waste management and recycling projects, solid waste planning projects, and waste tire projects. Of that total, approximately $2.6 million was awarded in Solid Waste Assistance Grants to local governments for projects that involved the clean-up of illegal dumps, establishment of collection programs for bulky wastes and recyclables, funding support for employing a local solid waste enforcement officer, provision of household hazardous waste 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 local governments including municipalities, counties, solid waste regional authorities, solid waste districts, and other local government organizations. In addition, these grant awards included supplemental funds for solid waste enforcement officer grants awarded to communities that have maintained successful illegal dumping prevention and enforcement programs.

Grant Awards for fiscal year 2024

- Fifty-two counties were awarded $1.5 million through the non-competitive (or allocated) Solid Waste Assistance Grants program.
- Twenty-two additional local governments, including municipalities, counties, and regional solid waste authorities, were awarded over $1 million through the competitive Solid Waste Assistance Grants program.
- Thirty-four local governments including municipalities, counties, and regional solid waste management authorities were awarded $1.8 million in waste tire grants.
- One local government was awarded a total of $20,010.00 to fund efforts to develop an updated, local comprehensive solid waste management plan.
- Four local governments were awarded non-competitive/competitive funds for their proposed recycling programs.

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 2024, MDEQ completed review and approval of new or comprehensively updated plans for the city of Ridgeland and Lauderdale County. MDEQ also 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, Leflore, Marion, Pearl River, Tunica, and Warren as well as the city of Jackson, with several plans expected to be finalized for Commission approval in fiscal year 2025. In addition, efforts to comprehensively update solid waste plans were initiated or continued for Tate County, 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 2025.

Local governments also made decisions in fiscal year 2024 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 2024 include the counties of Harrison, Lawrence, Marshall, Rankin, and Tallahatchie as well as the Three Rivers Solid Waste Management Authority. Additionally, MDEQ is continuing review of requests for plan modifications for the counties of Harrison, Lauderdale, and Scott, 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% for all tires collected for processing as compared to the national average of approximately 81%. Attributable to a combination of challenging market conditions, increasing processing fees, and processing facility mechanical issues, recent years have seen a significant increase in the amount of processed tires being landfilled. Consequently, in fiscal year 2024, only about 30% of all tires transported to waste tire processors 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 2025. Overall, waste tire processors managed approximately 4.8 million waste tire equivalents with approximately 40% of the tires being imported from out-of-state sources during calendar year 2023.

The state's network of waste tire transporters and waste tire management facilities consists of 103 licensed waste tire haulers, 140 local government waste tire collection sites, and six active commercial waste tire processing and collection facilities. Collectively, approximately 4.8 million waste tire equivalents were managed through the waste tire management program for fiscal year 2024.

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 completed a new procurement process to gain additional waste tire abatement contract support for the continued work of abating abandoned tires.

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 e-Stewards. 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 to help promote and staff electronic collection events in the Jackson Metropolitan area. During two events hosted at the Farmers Market in Jackson, nearly 15,000 pounds of e-waste were collected for recycling.

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 voluntary 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 2024, 11,450 pounds of household medical sharps were collected through this program. Ten new businesses registered during fiscal year 2024 as drop-off collection stations. ***With a total of 326 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 a 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 DEA 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 46,000 tons of wastes were collected and processed as compost or mulch in calendar year 2023. 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 calendar year 2023, over 18,000 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 774,000 tons of by-product materials for beneficial uses in calendar year 2023. Over 55% of the by-products distributed were used for construction purposes while approximately 43% of materials were used in soil amendment applications with the remaining 2% 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 2024, 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 11 new landfill operators and eight renewals for existing landfill operators. At the end of fiscal year 2024, there were 45 active commercial landfill operator certifications.

MDEQ also offers a state-developed certification program for commercial Class I rubbish site operators. MDEQ conducted two virtual rubbish operator training classes in fiscal year 2024, each followed by an in-person examination session. MDEQ issued certificates for 33 new rubbish operators and 17 renewals for existing rubbish operators. At the end of fiscal year 2024, there were 152 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 assists 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.

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 and one permitted operating facility regulated under EPA's permitting authority. 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 with review of Household Hazardous Waste programs and 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 (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's 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, but did process two renewal applications.

Pollution Prevention (P2) 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:

- The P2 Program reviewed and monitored 198 annual waste minimization certified reports submitted by various industries and facilities around the state.
- In lieu of the Fall Leadership Roundtable, MDEQ asked enHance members to respond to a survey and share successes and challenges related to environmental issues at their respective facilities. It will help identify topics and presenters for the enHance Annual Workshop. In addition, planning for the upcoming annual enHance workshop was discussed and a subcommittee was established to assist in planning for the Fall of 2024 workshop event. The P2 Program will host the 2024 enHance Annual Workshop and Awards Luncheon in mid to late 2024. The enhance class of 2024 will be recognized at this event.

- From July 1, 2023, to April 30, 2024, the P2 program received, reviewed, and processed applications for the 2024 class members for the enHance environmental stewardship recognition program.

- On August 21-23, 2023, E3 Outreach conducted at Horizon Workforce Symposium: promoting statewide economic and workforce development and innovation.
- On September 19, 2023, MDEQ P2 participated in the 2023 Regional P2 Awards Ceremony to promote P2 champions in Mississippi and EPA Region 4 States.
- The P2 Program hosted the Multi-Media Compliance Assistance & P2 Training on October 9, 2023. The training was attended by Hol-Mac employees from their five facilities as well as members of the Mississippi Air National Guard. Some of the topics covered in the training session included: an overview of hazardous waste compliance enforcement and permitting topics, Mississippi's industrial stormwater general permit, air permitting basics and best management practices for Hol-Mac corporation's five facilities and MS air National guard facilities. MDEQ also used the opportunity to promote other P2 principles and the enHance Program.
- On October 5-6, 2023, E3 Outreach conducted at the Mississippi Manufacturing Association Annual Meeting.
- On December 19, 2023, The P2 Program and representatives of MDEQ Hazardous Waste program participated along with the Tennessee Industrial Assessment Center, the University of Memphis and the Tennessee Department of Environment and Conservation in a Multimedia Industrial Assessment at Edelbrock Group in Olive Branch, MS. Edelbrock Group is located on Hacks Cross Road in Olive Branch, Mississippi, in Desoto County. Edelbrock manufactures intake manifolds for automotive engines.

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.

In calendar year 2023, members' projects have resulted in over 52 tons of solid waste being reduced, nine million gallons of water saved, and the reduction of 424,156 MMBTU in energy use. EnHance members also reported more than $142,691saved and reductions in total air emissions of more than 165,222 tons.

Since 2009, enHance members have implemented projects that have produced the following impressive results:

- The elimination of over 1.7 million pounds of hazardous waste,
- The reduction, reuse, or recycling of over 1.6 million tons of solid waste,
- The conservation of more than 369 million gallons of water per year,
- The reduction of more than six billion kilowatt hours of annual energy use and over 21 million MMBTUs of total annual energy savings,
- Significant reductions in air emissions, with a CO2e reduction of almost nine million tons, and a
- Total costs savings of over $11million.

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 2024, the enHance program continued to promote these best management practices to encourage more widespread implementation through training sessions, mentoring, and participation.

Compliance and Enforcement Division

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 2024, the following number of air and water on-site inspections were performed by ECED and the Field Services Division:

- 179 for compliance with air pollution regulations and permits.
- 1,006 for compliance with water pollution regulations and permits.

ECED actions resulted in 28 Agreed Orders being issued for non-compliance with air and water regulations and permits. Of the 28 Agreed Orders executed, 23 contained

provisions for a penalty with a total of $430,425. 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.

ECED, in conjunction with the Field Services Division, is also responsible for responding to citizen complaints regarding air and water matters. During fiscal year 2024, MDEQ received and investigated 640 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

Highlights

- *During fiscal year 2024, the Nonpoint Source Branch managed a total of 34 projects and activities totaling $2.425 million in federal funds.*
- *MDEQ funded nine new WPCRLF projects totaling $64.6 million.*
- *Issued general permit coverages for 235 new projects and 43 modifications under the large construction stormwater general permit through EPD.*

Water Quality Monitoring

The MDEQ **Water Quality Assessment Branch** 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 CWA 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.

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. Fifty-one Ambient Bacterial Monitoring sites are sampled in this network with an additional 21 beach monitoring sites. The sampling scheme includes the collection of a minimum of five 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 not fertilized. 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 - 2024 Biennial 305(b) Report

Every two years MDEQ is responsible for generating the Water Quality Assessment Report under Section 305(b) of the CWA. 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 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 2024 305(b) report is based on data collected from January 2018 through December 2022. 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 assessed between 2018 to 2022 and whether it is attaining or not attaining its designated use or uses. The report can be found at mdeq.ms.gov/water/field-services/water-quality-assessment/.

Mississippi Benthic Index of Stream Quality

The Mississippi Benthic Index of Stream Quality 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.

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 and laboratory.

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. Fifteen lakes were sampled in fiscal year 2024.

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 2024. At the end of a five-year cycle, a minimum 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 2024, a total of 41 advisories were issued for elevated bacteria detected through routine sampling.

Triennial Review of Water Quality Standards

The CWA requires that each state review their water quality standards 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 WQS.

The 2024 triennial review is now underway. MDEQ WQS staff are currently reviewing the latest scientific information and evaluating the need for revisions to the current WQS. MDEQ plans to propose any draft revisions to Mississippi's WQS as part of the next triennial review process in late 2024 or early 2025.

Total Maximum Daily Load and Modeling

Section 303(d) of the CWA requires states to identify all water bodies that do not meet state water quality standards and publish these in the 303(d) List of Impaired Waters biennially. This list was updated in 2024 and approved by the Mississippi Commission on Environmental Quality in April 2024. Waters that have been identified as biologically impaired using the Mississippi Benthic Index of Stream Quality will also have a Stressor Identification performed to determine the pollutant of concern. In 2024 MDEQ has done Stressor Identification work for seven waterbodies. The CWA requires states to calculate how much of a pollutant can be put in these waters without violating the standard. That quantity is reported as a Total Maximum Daily Load and addressed through a TMDL report. TMDLs include pollutant levels from point and nonpoint sources. They may set limits on pollutants entering water bodies or serve as planning tools for improving water quality. MDEQ designs TMDLs so that impaired water bodies will meet and continue to meet state water quality standards. TMDLs are currently being developed for five waterbodies. Mississippi has also identified eight water bodies were Advanced Restoration Plans have been put in place as an alternative to TMDL development.

Development of the Priority Framework

MDEQ has updated the collaborative framework for implementation of the CWA 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. One hundred watersheds were ranked using the Priority Framework to screen watersheds for activities that will address the water program goals.

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 reviewed the selection process and screening criteria to choose a subset of those prioritized watersheds for TMDL development for the next two years. This list was 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/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. In support of nutrient reduction efforts, Mississippi received funding from the Bipartisan Infrastructure Law to implement nutrient reduction actions under EPA's Gulf Hypoxia Program. With the first phase of funding under this grant, MDEQ worked with partners to identify a set or projects that focused heavily on filling data gaps and building tools that can help Mississippi establish a strong foundation for making management decisions. Specifically, these funds were used to implement a series of projects to better characterize nutrient loads from state waters into the Mississippi River, develop tools to estimate load reductions achieved from the implementation of nutrient reduction practices, and build a new assessment tool to better measure changes in water quality because of nutrient reduction efforts.

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 2024, the NPS Branch managed a total of 34 projects and activities totaling $2.452 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

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.

Coastal Nonpoint Source Coastal Zone Act Reauthorization Amendments Program

The Coastal Zone Reauthorization Amendments requires all states along with the coast and those along the Great Lakes to establish a coastal nonpoint source program. In fiscal year 2024, MDEQ addressed the last remaining measures required to receive program approval. This work was achieved by evaluating existing programs, policies, procedures and regulations used to manage coastal nonpoint source pollution and reporting those results to EPA and NOAA.

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 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 basin-wide 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 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 the National Water Quality Initiative sites where NRCS has or will implement various conservation practices such as cover crops, filter strips, and terraces. In addition, NRCS uses geospatial data and watershed characterization information developed through the Basin Management Approach to help identify priority watersheds for targeted funding under the National Water Quality Initiative as well as other NRCS funding initiatives.

Nonpoint Source Education and Outreach

The Nonpoint Source Educational Program increases public awareness of NPS pollution and encourages behavior changes that will reduce pollution impacts. NPS funds environmental teacher workshops throughout the state, Adopt a Stream, Project Learning Tree, Mississippi Envirothon, the Mobile Classroom, and the Waste Pesticide

Program. The NPS program also participates in conservation field days and other events all over the state to educate the public with ways to help reduce impacts of NPS pollution.

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 coverage for 234 new projects and 43 modifications under the Large Construction Stormwater General Permit. Additionally, EPD reissued 11 previously covered facilities under the new permit.
- EPD issued 27 new coverages, reissued four existing coverages, and modified three existing coverages under the Industrial Stormwater General Permit. Additionally, EPD received and processed 41 "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.

Environmental Operator Training

The training calendar included 69 days of agency-sponsored training classes. Of these training days, 55 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 922 operators, utility managers, and engineers, and certification exams were administered to 164 prospective operators with a total number of 242 new and renewal certificates issued. There are currently 680 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 provides 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 2024, MDEQ funded nine new WPCRLF projects totaling $64.6 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.

Remediation

Highlights

- *Provided technical support to 16 cities, counties, and districts to conduct assessments and cleanups.*
- *Issued 23 work orders and completed 16 Targeted Brownfield Assessments, totalling over $750,000.*
- *Proposed and finalized new Brownfield Revolving Load Fund Regulations (October 2023).*
- *Provided responses to 36 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, 59 companies have participated in the program, and 44 Brownfield Agreements have been executed putting 548 acres back into reuse. This fiscal year, MDEQ provided technical support to the cities of Boonville, Canton, Columbia, Greenville, Hernando, Jackson, Louisville, Natchez, Ripley, Vicksburg, West Point, and Yazoo City along with Winston County and the North Central Planning and Development District, 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.

Six communities submitted EPA 104k grant applications in fiscal year 2024 and two were awarded. The two are Ripley, for a community-wide assessment grant, and Winston County for a Cleanup Grant regarding the former Teters Floral site in Louisville. MDEQ received a new Brownfield applicant, McIngvale Square, LLC, for remediation of a site located in Hernando.

In addition, one Brownfield Agreement was completed for the former Triplette Day Drug Store in Gulfport. This Brownfield Agreement site had asbestos containing materials that were abated prior to renovation of the building.

MDEQ received and approved one application for a new Brownfield consulting firm, Haley and Aldrich, Inc.

In 2024, MDEQ issued 23 work orders and completed 16 Targeted Brownfield Assessments (TBAs). TBAs can consist of environmental assessment activities such as Phase I and Phase II, asbestos and lead based paint surveys, underground storage tank removal, and cleanup planning. These TBAs reduce costs and promote redevelopment opportunities for public and private entities as funding and eligibility allows. MDEQ has increased the number of TBAs it has conducted historically due to $1.5 Million in EPA CERCLA 104k assessment grant funding that has been awarded to MDEQ. In addition, the Bipartisan Infrastructure Law appropriated additional CERCLA 128a Brownfield funding to states. MDEQ has been awared $2.56 million in the first three of an expected five year federal appropriation. MDEQ expects to continue to conduct TBAs each year through the next two years.

MDEQ was also awarded by EPA one million in grant monies to establish a Brownfield Revolving Loan Fund Program. MDEQ established new Brownfield Regulations in October 2023 to implement this program and has recently received its first application. This funding is for the cleanup of contaminated sites for eligible Brownfield properties and public or private entities.

In federal fiscal year 2024, MDEQ hosted a Brownfield Workshop with the Mississippi Municipal League, New Jersey Insititute of Technology, and EPA Region 4 at the

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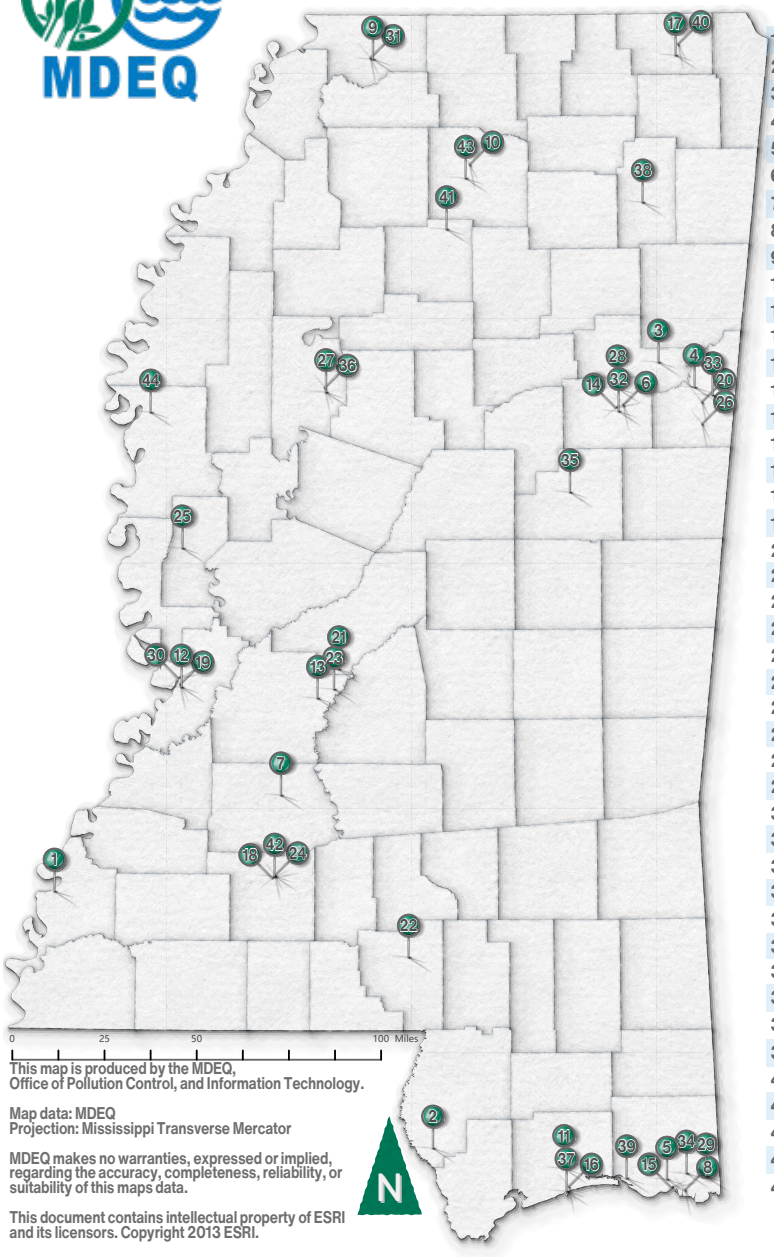


1 Amoco Ethyl/Afton Chemical
2 Arizona Chemical - Picayune
3 Big Yank
4 Ceco Building Systems
5 Colle Towing Company
6 Cooley Building - The Mill at MSU
7 Copiah County MECO Property
8 Delmas Nursery
9 DeSoto Co. School Bus Lot
10 Emerson Appliance Motors Division
11 Exclusive Cleaners
12 Fabra Care Dry Cleaners
13 Fabra Care Master Dry Cleaners
14 Garan Manufacturing
15 Gautier Oil Co. Inc.
16 Gulfport Tire
17 INTEX Plastics
18 Keystone Seneca Wire Cloth
19 Kuhn Memorial State Hospital
20 Lee Middle School
21 Madison Materials Concrete Beam
22 MCEDD - Airport Road
23 Mississippi School of the Blind
24 MMC Materials, Inc.
25 Mound Plantation Red Barn Site
26 Nashville-Ferry Road Site
27 National Picture and Frame Site
28 One Hour Cleaners
29 Pascagoula Ice Plant
30 Pennzoil Quaker State
31 Reliable Equipment
32 Sunsations
33 Supersonic Car Wash
34 Swify Serve #542
35 Team Motors - S. Church Shell
36 Three Rivers Inn
37 Triplett-Day Drug Bldg
38 Tupelo Fairgrounds
39 Village Dry Cleaners Facility
40 W.R. Grace Solvent Waste Site
41 Water Valley Manufacturing
42 West Manufacturer's Blvd. Spec Bldg
43 Whirlpool Corp./Chambers Corp.
44 Wolverine Tube, Inc.

Mississippi Coast Coliseum and Convention Center in Biloxi during the annual MML Conference. The workshop provided communities in Mississippi information on the Brownfield grant process, information on the State of Mississippi's Brownfield programs, and opportunities for communities that have been unsuccessful in receiving an EPA Brownfield Grant in the past to receive feedback on their grant proposals from technical grant writers frequently successful in securing Brownfield grants.

MDEQ encourages members of the Legislature to speak with their communities, counties, cities, planning districts, and developers on the value of the Brownfield programs that MDEQ and EPA offer. This significant increase in Brownfield funding and assistance will only be available for the next few years. MDEQ is available to help educate your communities on Brownfield opportunities and our programs, so please contact us as you need assistance.

Uncontrolled Sites and Voluntary Evaluation Program

During fiscal year 2024, Groundwater Assessment Remediation Division staff actively oversaw 237 active sites with the total number of sites at 2,264. These 2,264 sites cover all the known and suspected contaminated sites reported to the state since 1967. MDEQ issued "No Further Action" letters for 14 of these sites that were evaluated and remediated to levels protective of human health and the environment resulting in an additional 131 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 2024, 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% 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 nine superfund sites.

The Mississippi Phosphates site completed its removal action to grade and cap the East Gypsum Stack in 2024. 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. Closure of the water return ditch should be completed by August 2025. EPA is proceeding with ongoing wastewater treatment during cleanup and closure. EPA plans to construct a new water treatment plant for the East Gypsum Stack in 2026, followed by a year of EPA operation. A new water treatment plant is necessary to be built at the East Gypsum Stack as future flowrates will be reduced and the current treatment plant is across the highway now sitting on privately owned property. At the end of the operating period (as early as mid-2027), the new water treatment plant will be transferred to MDEQ and the State of Mississippi for ongoing operation and maintenance. Turrent water treatment and the closure of the East Gypsum Stack and other ponds will exceed over $200 million a cost share from the

State of Mississippi through EPA's Removal Action. However, Mississippi Phosphates has no viable PRP identified at this time. Thus, the new water treatment plant will require a 10% cost share and the State of Mississippi will assume all costs with the operation and maintenance of the treatment plant approximately one year after EPA finishes construction. Operation and maintenance for the new water treatment plant could cost as high as $52,000 per month (depending on flowrates) and begin as early as mid 2027.

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 7,977 tanks at 2,979 facilities have the appropriately maintained equipment. In fiscal year 2024, there were 1,144 inspections conducted.

A UST-certified contractor program ensures proper installation and maintenance of UST systems. This past year 36 new UST certified contractor licenses and 315 renewal licenses were issued. There are currently 370 certified individuals that perform tank installations, alterations, testing, and/or permanent closures. There are currently 387 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 2024 it reached an overall payout of $242.6 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 564 sites that have had a confirmed or non-confirmed release and Trust Fund eligibility may or may not have been determined. During fiscal year 2024, $8.9 million was used to assess and remediate leaking underground storage tanks, a decrease of 1% 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.

MS MUNICIPALITY & COUNTY WATER INFRASTRUCTURE

Highlights

- *Issued 449 grant awards to 261 subrecipients.*
- *Issued $434,768,483 in grant awards.*
- *Paid $25,749,405 to subrecipients as of June 30, 2024.*

Senate Bill 2822 was signed into Law on April 26, 2022.It created the **MCWI** grant program through which MDEQ was appropriated $491,000,000 of American Rescue Plan Act ("ARPA") funding made available for infrastructure projects involving Drinking Water, Clean Water and Storm Water.

- Subrecipients are municipalities, counties, and public utilities not regulated by the Public Service Commission.
- Subrecipients must have Coronavirus Local Fiscal Recovery Funds (local ARPA funds) as match for any requested MCWI funding.
- Subrecipients' projects are necessary investments in infrastructure as defined by ARPA guidelines, rules and regulations, which include Drinking Water, Clean Water, and Storm Water projects.
- Project selection has been finalized.
- Subrecipients must complete their projects by the federal ARPA funds availability deadline (currently December 31, 2026) or else complete their projects using other funds.

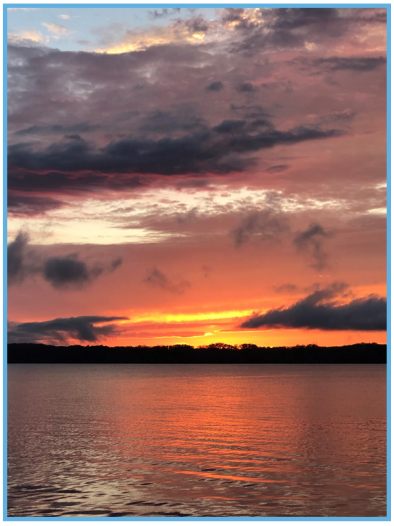
LAND & WATER

Water Quantity

Highlights

- *Issued or renewed 206 drillers licenses and added all available data for new water wells drilled in the state to a database management system.*
- *Sampled 60 water wells in a continuing effort to ascertain if agricultural prctices 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** 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.

In fiscal year 2024, 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.

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 2,435 new and renewal groundwater permits and 44 new and renewal surface water diversion permits in fiscal year 2024. 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 should 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 each 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 creates reports and potentiometric maps 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.

In fiscal year 2024, staff evaluated the water resources available to Noxubee County. The primary sources of water in the county are the Massive Sand aquifer, the Coker aquifer, the Gordo aquifer, and the Eutaw-McShan aquifer, with the latter two being the most heavily used. Water levels from public supply, agricultural, and home wells were measured and compared with historical levels. Changes in the water levels were shown using hydrographs, and the subsurface hydrogeology was illustrated using cross-sections throughout Noxubee County. Available drawdown ranges were calculated using the updated water level data and the cross-sections.

The groundwater resources of Lee County were studied in fiscal year 2024. The Eutaw-McShan aquifer and Gordo aquifers are the primary sources of groundwater in the county, with some home wells being drilled into the shallow Coffee Sand 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. Using this information, available drawdown ranges were estimated for the Eutaw-McShan and Gordo aquifers in Lee County.

Staff worked to complete a similar project in Oktibbeha County. Water levels and trends in the Gordo aquifer were primarily studied as the main source of public water supply in the county. Water levels collected in the study area will be incorporated into new potentiometric surface maps in the next fiscal year.

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 developing 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 neared completion of the project to map the top of the Glendon Formation and the Moody's Branch Formation in the southern part of Mississippi. In addition to these structure maps, cross sections are being constructed and will run from west to east and from north to south using information from these structure maps to 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 are 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.

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 19,000 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, 1,614 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 suppliers 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 1,422 public water systems, consisting of approximately 2,852 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 2024, the Drillers Licensing Program issued or renewed 206 licenses. MDEQ staff taught a continuing education course regarding Mississippi drilling laws and regulations at two conferences in Mississippi.

Mississippi Agricultural Chemical Groundwater Monitoring Program

Over 90% 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 2024, 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 2024, the program has sampled over 3,000 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

Highlights

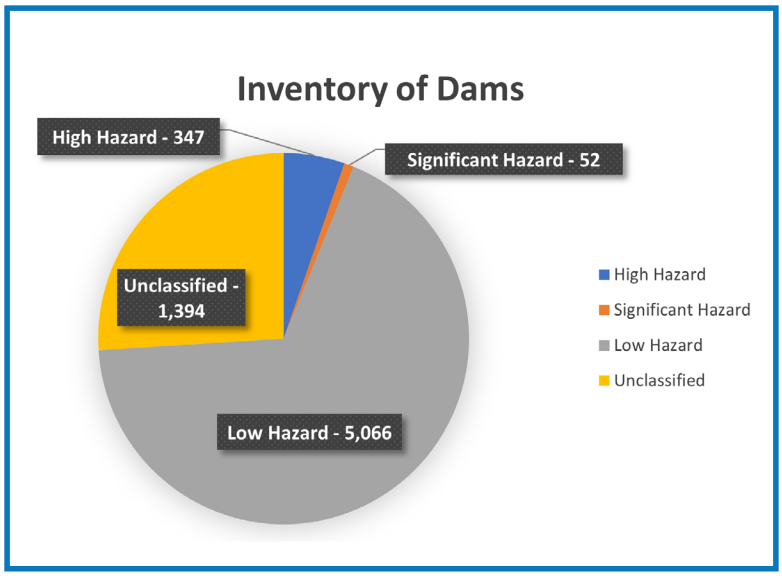
- *Performed and/or reviewed 466 inspections on 309 dams, resulting in dam owners initiating repairs or rehabilitation on 16 High Hazard dams.*
- *Reviewed and approved applications to modify 13 High Hazard dams and construct 13 new dams.*

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.

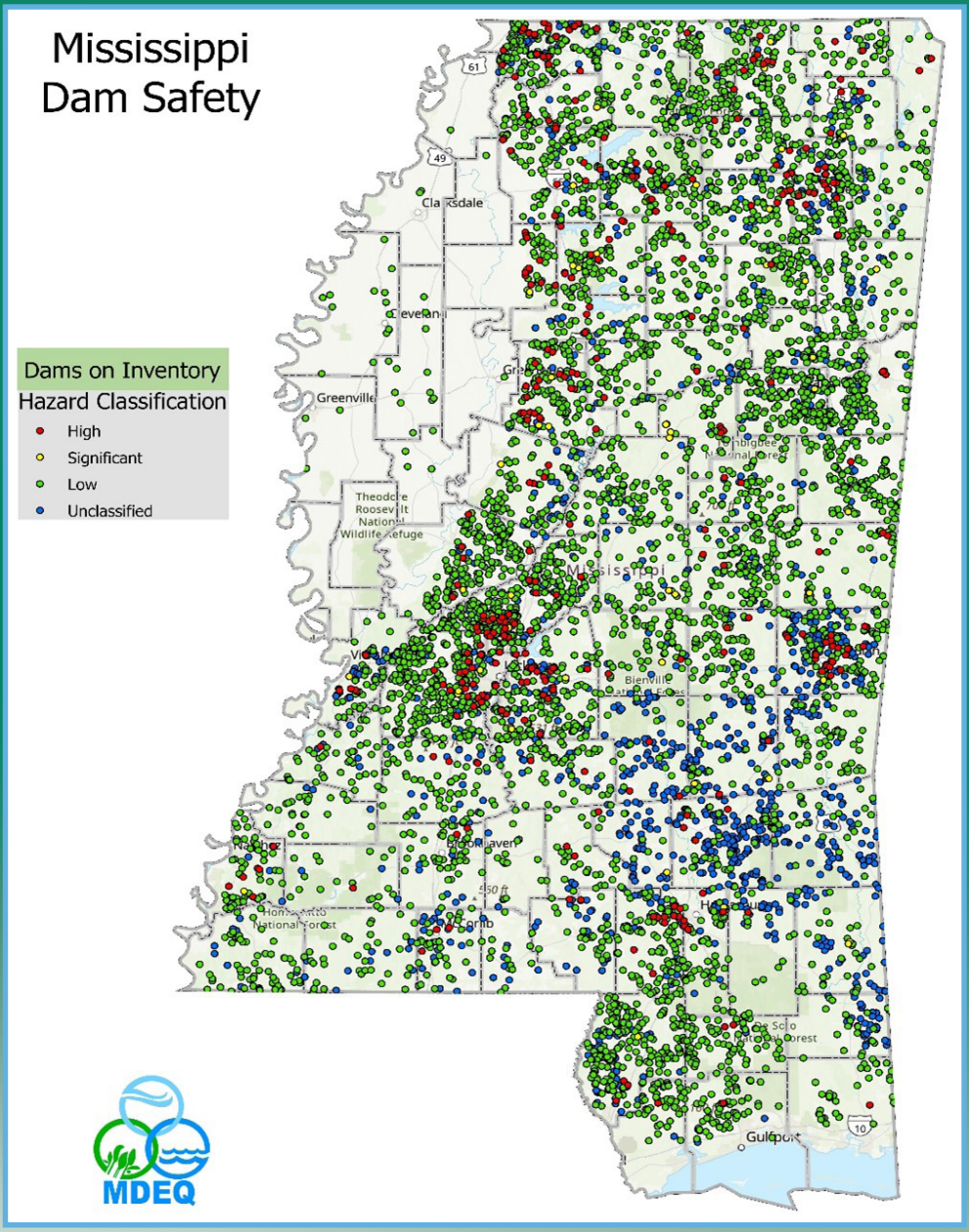
The OWLR **Dam Safety Division** reviews plans for repairs or modifications to existing dams, for the construction of new dams, conducts dam inspections, performs engineering analyses of dams, and reviews and approves Emergency Action Plans for High Hazard dams in addition to other duties.

There are currently 6,860 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 2024, 466 inspections were performed on 309 dams, and the information produced by these inspections resulted in dam owners initiating repairs or rehabilitation on at least 16 High Hazard dams. The division also reviewed and approved applications to modify 13 High Hazard dams and construct 13 new dams.



There are currently 325 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 93%. 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 fiscal year 2024, staff engineers responded to nine 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, Archusa Lake Dam in Quitman.

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. Twenty-five projects have been fully completed with the remaining two projects on track to be closed out by the end of fiscal year 2025.

MDEQ 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 CWA, 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 2024:

- GEO - issued 25 initial and five amended permits.
- EPD - issued, modified, or renewed 13 air construction permits, 30 air synthetic minor operating permits, 36 air Title V operating permits, 297 NPDES wastewater discharge permits, 51 pretreatment wastewater permits, 83 state operating wastewater permits, and 29 Section 401 Water Quality Certifications. In addition, EPD issued or modified 494 general permit coverages.
- Waste Division - issued, modified, or renewed ten solid waste management permits, ten authorizations for emergency debris management sites, one waste processing permit, and three RCRA permits; and
- OLWR – issued 2,435 groundwater withdrawal permits and 44 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

Reclamation

Highlights

- *Published a 600 page book, Handbook of Mississippi's Prehistoric Indians and Artifacts, Borgo Press.*
- *Published seven individual geologic quadrangle maps, including three 7.5-minute geologic quadrangle maps for the STATEMAP 2023 grant.*
- *Published seven geologic maps published, three as deliverables for a USGS STATEMAP grant and four funded by the National Park Service.*
- *Worked with Mississippi State University's Extension Service to publish a syllabus and outdoor envrionmental activities for a club for the state's 4-H programs called the 4-H Geo/Arch Club. The syllabus has also been used in Alabama.*
- *Excavated a fossil mosasaur skeleton and delivered the skeleton to the Mississippi Museum of Natural Science.*

Surface Mining and Reclamation of Surface-Mined Lands

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 2024, the Mining and Reclamation Division performed 511 inspections (of which 30 were bond release inspections), recommended to the Permit Board the issuance of 25 initial and five amended permits, and received 31 Notices of Exempt Operations (operations less than four acres in size). A total of 2,226 exempt operations are on file, covering approximately 8,904 acres. A total of 1,627 bonded acres were completely reclaimed because of the division's efforts to oversee reclamation. The state

currently has 582 permits covering approximately 34,562 acres. The Office of Geology's Mining and Reclamation Division continues to update the mining database that provides valuable mining information in a GIS format so mining sites can be located and viewed by anyone using the online Mining Viewer.

The Mining and Reclamation Division provides the required Mine Safety and Health Administration 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 2024, the staff provided 60 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 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.

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 were ongoing in fiscal year 2024 and will continue in fiscal year 2025.

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 2025.

Work under Mississippi's Abandoned Mine Land Program to identify and locate abandoned historic coal mines has identified four sites--two in Choctaw County and one each in Winston and Lauderdale counties. All these sites are believed to have been active sometime in the period from the mid to late 1800s to the late 1920s. Necessary reclamation work at the sites was completed in June 2018. In June 2020, another mine entrance was located in Winston County. This area was reclaimed in fiscal year 2022.

In fiscal year 2024, the division shifted the focus to the reclamation of “non-coal” sites and a non-coal inventory was established. In fiscal year 2025, the program anticipates

completed reclamation of AML sites on 16th Section lands in Covington and Simpson Counties.

Geological Data Collection Activities

Geologic Mapping

The Surface Geology Division's primary charge is the Geologic Mapping Program, which aims to map the entire state on 7.5-minute quadrangle sheets at a scale of 1:24,000. Visit mdeq.ms.gov to view completed digital maps or access the Office of Geology's Open-File Report series. Geologic maps are fundamental to characterizing the environment. Mapping at a 1:24,000 scale provides the detailed geologic information needed for environmental land-use decisions in municipal planning; to locate recharge areas for groundwater supplies; to locate mineral resources; to aid in pollution prevention and effective mitigation; to manage lan and protect property from geologic hazards such as landslides, swelling clays, and floods; and to support academic research in ecology, paleontology, and archaeology.

The United States Geological Survey Mapping (STATEMAP) grant and the National Park Service partially funded the geologic mapping program during fiscal year 2024. 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.

The Geologic Mapping Program published a total of three geologic maps in fiscal year 2024, funded in part by the STATEMAP grant: 7.5-minute Geologic map of Queens Hill Lake in Hinds and Warren Counties; 7.5-minute Geologic map of Eldorado in Warren, Yazoo, and Issaquena counties; 7.5-minute Geologic map of Oak Ridge in Warren and Hinds counties. A two-year renewable contract totaling $100,000 is funding geologic mapping for the NPS for the completion of detailed geologic quadrangle maps along the Natchez Trace Parkway. Geologic mapping for the NPS is being funded by a 2-year renewable contract totaling $100,000 for the completion of detailed geologic quadrangle maps along the Natchez Trace Parkway.

In fiscal year 2023, the Geologic Mapping Program published a total of two geologic maps funded by the NPS: 7.5-minute Geologic map of Edwards in Hinds County and 7.5 minute Geologic map of Learned in Hinds County. Two additional National Park Service maps in Northeast Mississippi produced unfunded in cooperation with Mississippi State University mapping: the 7.5-minute Geologic map of Houston East in Chickasaw County and the 7.5-minute Geologic map of Troy in Chickasaw and Pontotoc Counties. The geologic mapping program for fiscal year 2024 was funded in part by a Federal STATEMAP (2023) grant of $167,591 and a federal contract with the National Park Service. 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. Continued funding of

this essential function of the Office of Geology will enable us to match the federal STATEMAP grant.

The staff answered questions through the "Ask a Geologist" portal on the MDEQ website and created weekly public educational posts on the MDEQ Twitter, Instagram, and Facebook for #FossilFriday, some of which were reprinted as natural science news stories in both local and national news outlets. Surface Geology staff also worked with other state and federal agencies, our universities, neighboring State Surveys, researchers, and professional consultants on issues, projects, and research related to the diverse aspects of our state's geology in addition to conducting numerous public education and outreach programs.

The geologic mapping program for fiscal year 2025 is funded in part by a Federal STATEMAP (2024) grant of $240,790. Deliverables for this STATEMAP grant include: Project 1- the Surficial Geology and Shallow Subsurface Geologic Framework of the Redwood, Vicksburg East, and Vicksburg West 7.5-Minute Quadrangles in Warren and Issaquena Counties, Mississippi; Project 2- the Surficial Geology and Shallow Subsurface Geologic Framework of the Bluff Lake 7.5-Minute Quadrangles in Oktibbeha, Noxubee, and Winston Counties; Project 3- the Surficial Geology and Shallow Subsurface Geologic Framework of the Mississippi River Alluvial Plain 1:500.000 scale geologic map; Project 4- the Surficial Geology and Shallow Subsurface Geologic Framework of the Mississippi Gulf Coast 1:500.000 scale geologic map. Goals for fiscal year 2025 include: (1) mapping four- 7.5-minute quadrangles in central and northeast Mississippi, (2) mapping two 1:500,000 scale geologic maps in south and northwest Mississippi, (3) continued cooperative mapping with the NPS and MSU for a completed geologic map of the Natchez Trace Parkway, and (4) to continue a revision of the 1969 State Geologic Map at a scale of 1:500,000. 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 can be downloaded for free at mdeq.ms.gov or printed copies found in the Office of Geology's Open-File Report series.

Geospatial Resources Division

Flood Mapping

The Office of Geology's Geospatial Resources Division focuses 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.

Zoomed out view of Hinds County area FEMA National Flood Hazard Layer

In 2024, the Division currently has 12 active HUC 8 Watershed Flood studies affecting flood maps in portions of 43 counties, three Levee Analysis and Mapping Plan projects involving portions of nine counties.

Mississippi Digital Earth Model (MDEM)

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. The division has and will continue to manage development, collection, and review of local resolution hydrography data, LiDAR elevation data, and development/production of 6-inch annual Orthoimagery projects covering 1/3rd of the State each year (funding allowing) and updating the Statewide Land Ownership Parcel Layer.

In fiscal year 2025 and fiscal year 2026, the division will continue management of FEMA-funded flood mapping projects as well as work on the FEMA Risk MAP program, which adds mitigation and risk assessment data development to the ongoing flood map maintenance activities. During the 2023-2024 winter leaf-off season MDEQ contractors collected six-inch, four band, color Orthoimagery over the northern 1/3rd of the state. The data is expected to be delivered in early December 2024. This project totals approximately 16,500 square miles and covers 30 counties. A third project to be completed in late 2024 is the collection and updating of the statewide database of all 82-county parcel/land ownership data sets to the 2023 tax year information. All Orthoimagery, LiDAR, and county parcel/land ownership data acquired by the division is considered a part of MDEM and will be made available for distribution from MARIS 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 50 test holes and water wells during fiscal year 2024 and collected 25,610 feet of data on test holes that otherwise would not have been wireline logged. These geophysical logs were run for 15 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. The Environmental Geology drilling program drilled four boreholes in support of Surface Mapping's STATEMAP grant. The total depth drilled was 805 feet.

COMMUNITY ENGAGEMENT

The **Office of Community Engagement** often works with municipalities, industries, the public, and other regulators to create partnerships to allow shared accountability in developing strategies that address enduring 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 2024, OCE hosted and/or participated in 94 local, regional, or national training courses to continue to address environmental justice concerns in the State of Mississippi. OCE attended 39 in-person events in response to direct requests for environmental justice assistance and education made by local communities, Institutions of Higher Learning, and other agencies. Additionally, OCE directly collaborated with the MDEQ Environmental Permits, Air, Groundwater Assessment and Remediation, and Compliance and Enforcement Divisions to provide recommendations for 51 projects with potential environmental justice 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 provides information about regulations, programs, and resources that are of importance to small businesses. The MDEQ staff responded to approximately 135 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, municipal leaders, and non-profits who are unable to secure professional services for technical assistance. In fiscal year 2024, the SBEAP participated in 113 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.

- **2024 National SBEAP Annual Training** - On March 12-14, 2024, the MDEQ Small Business Environmental Assistance Program attended the National SBEAP Annual Training in Chattanooga, Tennessee. More than 60 participants from programs across the country attended the training, representing various state SBEAPs, small business ombudsmen, and EPA organizations. This training provided pivotal information to assist SBEAPs and bolster collaboration with other state and federal counterparts on evolving regulatory and compliance changes. Attendees participated in a facility site visit to observe techniques intended to improve onsite technical assistance efforts. The information provided at the annual training afforded a valuable opportunity for the SBEAP to further its mission to continue helping to increase environmental compliance and improve regulatory knowledge amongst small businesses and municipalities throughout the State of Mississippi.

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