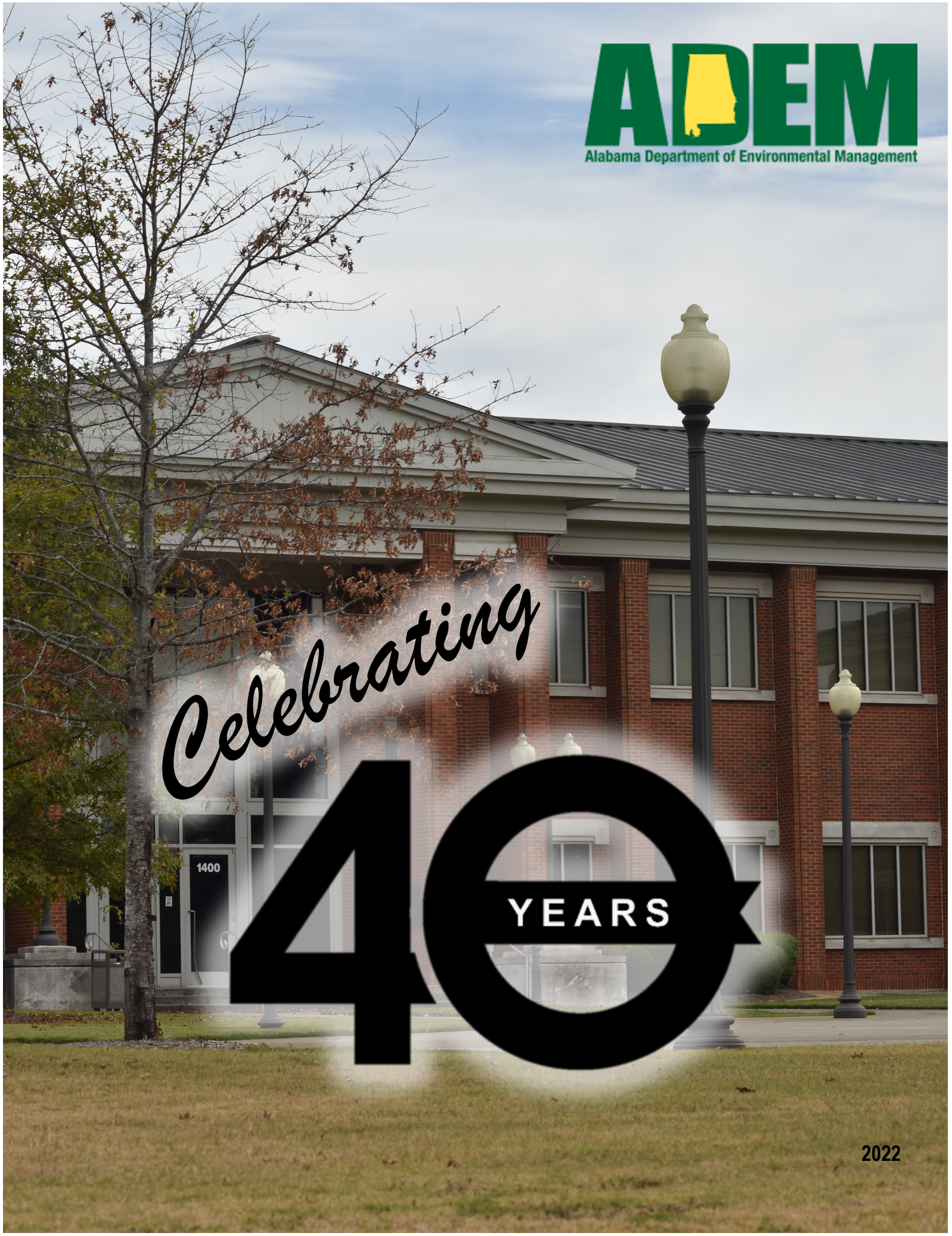
ADEM
Alabama Department of Environmental Management
Celebrating
40
YEARS
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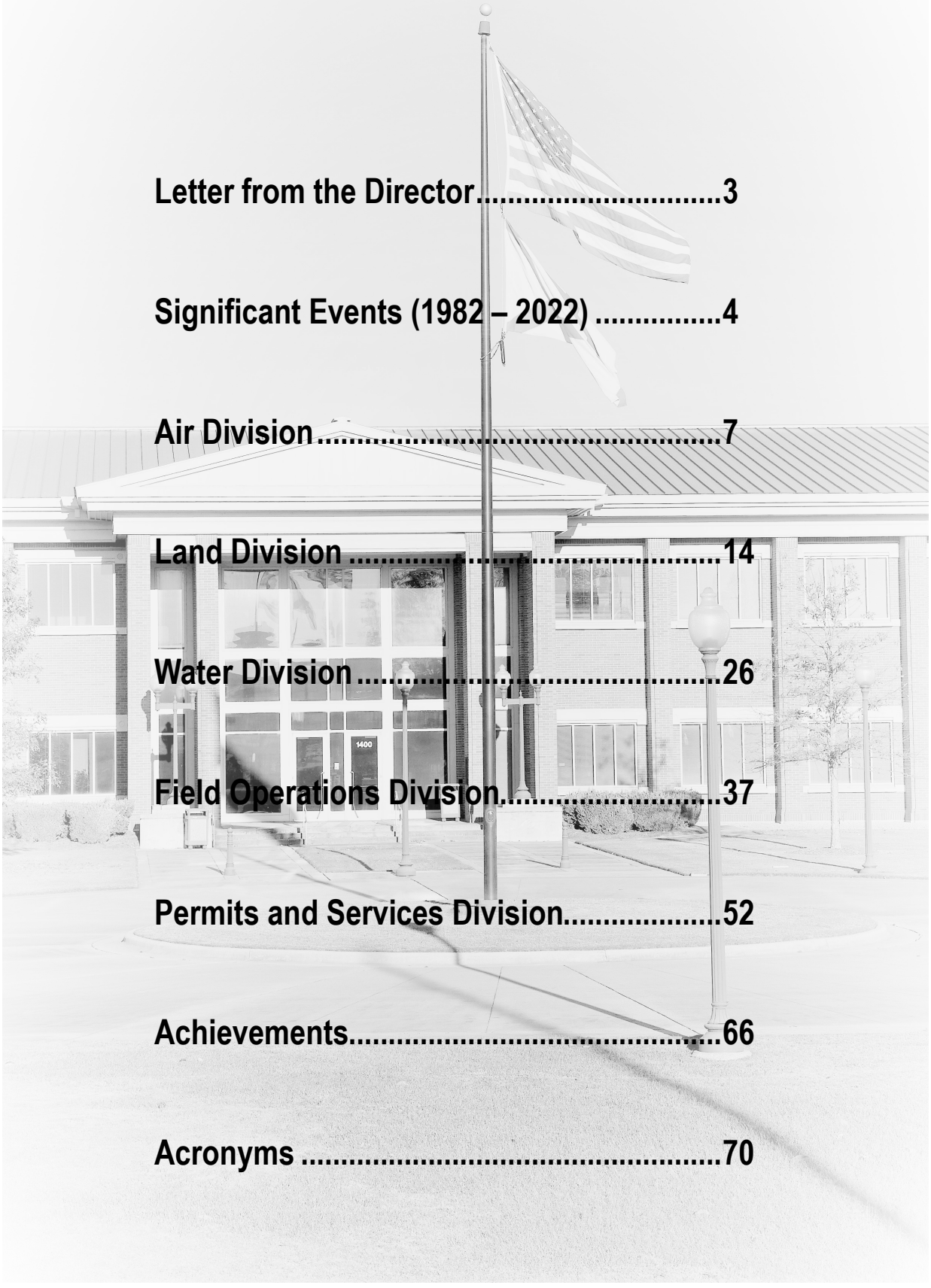
2022



LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

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The Alabama Department of Environmental Management came into existence in 1982 when nine separate boards, commissions, and other governmental entities were combined to create one go-to agency dedicated to protecting and preserving Alabama's air, land and water resources. In the 40 years since, much has changed with the Department, and much has stayed the same.

There are many more federal environmental regulations and, consequently, many more state environmental regulations. Air and water quality standards are much more stringent. Cleanup standards for soil contamination are much tighter.

A result of those changes is that harmful air emissions have declined by 83% in Alabama. Eighty-two percent of the water bodies in Alabama that were impaired in the past are now meeting water quality standards. Drinking water quality is among the very highest in the nation. All unlined municipal solid waste landfills in Alabama have been closed and replaced with state-of-the-art lined landfills. Two-thirds of the old industrial sites in the state have been rehabilitated and put into productive use.

These are but a few examples of the many environmental advances achieved that are paying dividends for the citizens of Alabama.

These achievements are due in large part to the work of the Department's dedicated, professional staff; the Department's working relationships with community, business and environmental groups and other governmental agencies; and efficiencies made possible by the embrace of automation and modernization. Indeed, despite operating with less employees and a budget that is actually lower in inflation-adjusted terms than 10 years ago, the Department is performing more inspections and scoring higher on objective compliance and enforcement metrics. And, that performance is outpacing the rest of the nation.

This year, the Department launched an unprecedented and historic initiative that will invest $1 billion over the next several years in public water and sewer systems across the state to address critical infrastructure needs which will impact the lives of millions of Alabamians.

Yes, much has changed in 40 years. However, some things have not changed.

The Department's mission remains the same as it was when ADEM was created – "To assure for all the citizens of Alabama a safe, healthful and productive environment."

The commitment to good science, fair and proper process, and compliance with all applicable environmental laws, rules and regulations has not changed.

The practice of impartial and ethical execution of our responsibilities is unchanged.

And the unwavering dedication of our employees to the important and honorable work of responsible environmental stewardship remains.

The following pages of this document lay out the advances that have taken place during the last 40 years to improve the operation of the Department and the protection of Alabama's environment. I hope you will find it informative and inspiring.

Sincerely,

Lance R. LeFleur
Director

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Significant Events

1982

- ADEM created with passage of the Alabama Environmental Management Act.
- UIC Program approved by EPA.

1983

- WANG mainframe computer system installed.
- EPA and ADEM signed cooperative agreement for CERCLA Assessments.
- Began issuing initial Hazardous Waste Operating Permits.

1984

- ADEM's first central office in Montgomery.

1985

- Performed initial statewide reservoir water quality monitoring survey.

1986

- Alabama Legislature authorized ADEM to assess administrative penalties on violators.
- Federal SDWA reauthorized and accelerated establishment of maximum levels for 83 contaminants.

1987

- Amendments to the Clean Water Act established the Nonpoint Source Management Program.
- ADEM and U.S. Geological Survey evaluated vulnerability of major aquifers supplying public water wells.
- Received RCRA Base Program Authorization and closed out all interim status surface impoundments.

1988

- Alabama Hazardous Substances Cleanup Fund created to provide a mechanism to investigate, remediate, and monitor hazardous substances sites that do not qualify for CERCLA.
- Alabama Lead Ban Act passed and prohibited the use of products that are not lead free in repair or installation of public water systems.

1989

- Alabama became first state to receive EPA approval of a state UST Trust Fund Program.
- Statewide groundwater monitoring initiated.
- EPA adopted Surface Water Treatment Rule.
- EPA adopted the Total Coliform Rule for legal limits in drinking water.
- UST regulations went into effect with requirements for leak detection, corrosion protection, spill/overfill prevention, and release response requirements.
- The Ozark Utilities Board became the first recipient of Clean Water State Revolving Fund loan.

1990

- U.S. Department of Defense and ADEM entered into a Memorandum of Agreement to provide for expedited oversight of cleanup actions at active and former military installations.
- Birmingham Field Office moved into new building and lab.
- Alabama allocated $760,000 to initiate the Nonpoint Source Management Program.

1991

- Began licensing asbestos removal contractors.
- Wellhead Protection Program became the first in EPA Region 4 to be approved.
- ADEM, EPA, and the Alabama Rural Water Association studied radon in drinking water with each community public water system well being sampled and analyzed.
- Fish Tissue Monitoring Program initiated.
- EPA adopted expanded Synthetic Organic Chemical Rule for Drinking Water, adding 74 compounds to monitoring requirements.
- NPDES Phase I Stormwater Program initiated.

1992

- Outstanding Alabama Water classification established.
- ADEM received the EPA Award of Excellence for Drinking Water Supply Program.
- Alabama Water Watch Program created.
- Portions of Sipsey Fork (Black Warrior River) classified Outstanding National Resource Water.

1993

- Subtitle D of RCRA adopted into ADEM regulations.
- Alabama selected as one of 11 pilot states for the development of a Comprehensive Ground Water Protection Program.
- ADEM received second EPA Award of Excellence for Drinking Water Supply Program.
- Coastal monitoring surveys initiated.

1994

- The Alabama Comprehensive State Groundwater Protection Program became one of the first four in the nation approved by the EPA.

1995

- EPA approved air Title V Operating Permit Program.
- Acid Rain regulations were adopted resulting in substantial reductions in emissions of SO_2 and nitrogen oxides from utilities.

1996

- ADEM webpage established.
- Received RCRA Corrective Action Program Authorization.

1997

- AHWMMA permit issued to Anniston Chemical Demilitarization Facility.

1998

- "The Cluster Rule" became effective and virtually eliminated all dioxin discharges at pulp and paper facilities.
- Town of Nectar received the first Drinking Water State Revolving Fund loan.

1999

- FileNet electronic document filing system implemented.
- Construction completed on new central office building in Montgomery.
- NPDES Phase II Stormwater Program initiated.
- The Alabama Scrap Tire Study Commission and a $1.00 per scrap tire fee established.
- Impaired waters list (303(d) list) stream water quality assessments initiated.
- Coastal Beach Monitoring Program began.

2000

- NPDES permits required for Concentrated Animal Feeding Operations.
- Alabama Scrap Tire Environmental Quality Act established both a Scrap Tire Management Program and a remediation fund for the clean-up of scrap tire dumps.
- Alabama Drycleaning Environmental Response Trust Fund created.

2001

- Alabama Land Recycling and Economic Development Act enacted to provide for a voluntary cleanup program.
- EPA approved Phase I of Alabama's NOx SIP Call Trading Program, resulting in large decreases in NOx emissions.

2022

- Beneficial Use rules developed and implemented.
- Alabama Act 2022-1 approved the spending of $225 million in ARPA funding to support improvements at public drinking water and wastewater systems.

2021

- The Bipartisan Infrastructure Act provided more than $750 million over a 5-year period for improvements to Alabama drinking water and wastewater systems.

2020

- ADEM reached a consent order with 3M Company that holds the company accountable for cleaning up PFAS from its plant in Decatur and at multiple sites in northwest Alabama.
- Brownfield program began conducting brownfield inventory activities throughout the Black Belt to identify potential sites that could promote redevelopment.
- ADEM began utilizing AEPACS for NPDES general permits, MS4 permits, and the Recycling, Scrap Tire and Unauthorized Dump (UAD)/Unauthorized Scrap Tire Sites (USTS) programs.

2019

- ADEM biological surveys of water quality received highest ranking possible (Level 4) from Midwest Biodiversity Institute and EPA.
- Alabama Recycling Fund awards provided to multiple Madison County communities to establish the largest public curbside recycling program in Alabama.

2018

- EPA redesignated a portion of Pike County (City of Troy) in attainment for the 2008 lead NAAQS. With this designation, Alabama reached attainment with all National Ambient Air Quality Standards.
- ADEM promulgated state CCR Rules consistent with federal CCR Rules.
- Sanitary Sewer Overflow Response Plans required in NPDES Municipal Permits to address SSOs.

2017

- EPA formally designated Alabama as attainment/unclassifiable for the 2015 ozone NAAQS.
- Electronic Sanitary Sewer Overflow (SSO) Map and Municipal Outfall Map made on the website.

2016

- Implemented the Air Electronic Emissions Reporting System (AEERS).
- Southeast Recycling Development Council (SERDC) performed recycling feasibility study for Boosting Residential Material Recovery and Recycling in Alabama.

2015

- EPA formally designated Alabama as attainment / unclassifiable for the 2012 annual fine particle NAAQS.
- EPA finalized "Data Requirements Rule" requiring ADEM to monitor or model ambient sulfur dioxide (SO_2) concentrations in areas with large sources of sulfur dioxide emissions to assist in the implementation of the one - hour SO_2 National Air Ambient Quality Standard (NAAQS).
- Reclaimed Water Reuse Program Rules adopted.

2014

- Following over 8 years of operation and over a year of closure operations, ANCDF granted a certificate of clean closure from ADEM in September.

2013

- School Recycling Challenge established.
- Financial Assurance Requirements for Centralized Wastewater Treatment Facilities Rules established.

2012

- Electronic Complaint System went online to allow concerned citizens to enter environmental complaints.
- ADEM exceeded $60 million in Section 319 grant funding to address the impacts of nonpoint source pollution.
- Reduced rivers/streams classified as less than suitable for fish and wildlife to 138 miles as compared to 713 miles in 1982.
- Birmingham designated as attainment/unclassifiable for the 2008 ozone standard.

2011

- The Clean Water State Revolving Fund exceeded $1 billion in closed loans.
- Air quality data in the Birmingham non-attainment area met the annual fine particle NAAQS (2008-2010).
- Treasured Alabama Lake special designation established with Lake Martin receiving the designation.

2010

- Awarded Brownfields Grant of $200,000 to assess sites along Selma-to-Montgomery National Historic Trail.
- Air quality data in the Birmingham nonattainment area met the daily fine particle NAAQS (2007-2009).
- Responded to Deepwater Horizon oil rig explosion.
- ADEM Wetlands Monitoring Program developed.
- EMC adopted changes to SRF rules to establish state-of-the-art project ranking system.

2009

- e-File System for the electronic Internet-based file retrieval allowed public access to permits, compliance data, correspondence, and enforcement documents.
- Auburn University Algal Toxin Program partnership initiated.

2008

- Passage of the Alabama Solid Wastes and Recyclable Materials Management Act.
- RCRA 2020 Baseline established.
- ADEM began assessing sites along the Selma-to-Montgomery Historic Voting Rights Trail
- eDMR System for the electronic filing of Discharge Monitoring Reports began.
- E. coli criteria developed and implemented.

2007

- Implemented UST regulations that comply with the Energy Act requirements for secondary containment.
- Alabama Uniform Environmental Covenants Act enacted.
- National Lakes Assessment monitoring initiated.
- ADEM received EPA recognition of Flint River Nonpoint Source Success Story and the de-listing of a 28-mile segment of the Flint River.

2006

- Construction completed on the state-of-the-art laboratory building adjacent to the central office building.
- EPA designated Jefferson and Shelby counties to attainment of the 8-hour ozone NAAQS.

2005

- The combined drinking water and wastewater State Revolving Fund Loan programs surpassed $1 billion in loans.
- EPA approved Phase 2 of Alabama's NO_x SIP Call Trading Program.
- Began filing documents electronically in FileNet.
- Alabama Legislature established financial assurance requirements for MSW landfills.

2004

- Alabama Brownfields Development Tax Abatement Act enacted.
- 1st Brownfield Revolving Loan Grant of $1 million awarded.

2003

- ADEM received the 1st of eight EPA Exchange Network grants totaling $2.45 million.
- Alabama Land Recycling & Finance Authority Act passed enacted to establish brownfield revolving loan program.

2002

- Alabama drinking water systems ranked 2nd nationwide in compliance.
- ADEM awarded 1st Brownfields Pilot grant of $1 million.

40 YEARS

ADEM Main Office
Montgomery

DIVISION

Air

Overview

The Air Division is responsible for managing the state's air resources by implementing programs designed to ensure that safe air quality levels are achieved and maintained. Different technical programs have been established within the Air Division to handle various tasks, such as permitting, enforcement, air toxics regulations, source evaluation, asbestos removal, and complaints.

PROGRAMS

Air Permitting and Oversight

Engineering Services consists of the Chemical Branch and the Energy Branch, and both serve as a direct link to regulated industry. Both branches are responsible for permitting air pollution sources, conducting inspections, and overseeing enforcement activities.

Permits are perhaps the most essential factor in the environmental regulatory process and are designed to assure that sources comply with the applicable environmental laws.

ADEM included provisions in the Air Code that would facilitate the permitting of projects that are considered environmentally beneficial. The purpose of these provisions is to reduce obstacles to modifications of existing processes that would result in an overall environmental benefit while maintaining adequate protection of air quality.

When managing enforcement issues, ADEM and EPA Region 4 share concurrent authority to enforce air pollution control regulations. EPA may, at any time, initiate enforcement procedures regardless of state actions. This rarely occurs due to coordination with the federal agency through monthly enforcement calls to discuss violations and actions being taken by ADEM. Oversight inspections are also held yearly by EPA to confirm that correct information is contained in the files, as well as periodic audits to validate compliance data.

Title V Permitting

Title V permitting encompasses all air individual permits, of which there may be many, at a given facility. The issuance of operating permits under Title V of the Clean Air Act Amendments (CAAA) of 1990 has increased the level of permit review by EPA, the state, and the public. Title V required permitting authorities to collect annual fees from all major sources as necessary to fund the implementation and management of the operating permit programs. The operating permits were implemented in 1992. These fees can be paid electronically through Alabama Interactive.

State Implementation Plan

ADEM's Planning staff are responsible for maintaining the Alabama State Implementation Plan (SIP), developing emission inventories, developing control strategies for maintaining air quality standards, and adopting and developing regulations.

Control Strategies staff are responsible for SIP development, developing emission inventories, adopting/developing federal regulations into state regulations, grants management, training, and keeping abreast of programs and requirements administered at the federal level (mobile source issues/global climate change/stratospheric ozone protection/air toxics) in order to determine their impact on the state. Over the past 40 years, controls required by SIPs, along with the implementation of federal air quality programs, have led to major improvements in air quality across the state.

PROGRAMS

Monitoring Air Emissions

ADEM's Emissions Measurement staff implement activities that evaluate and/or quantify air emissions from regulated and non-regulated facilities. These activities include the observation of emissions testing, evaluation of emissions test reports, certification/ recertification of continuous emissions monitoring systems (CEMS), CEMS audits, Acid Rain Certification, source testing, and the Visible Emissions Certification Program.

During a typical fiscal year, approximately 750 emissions tests are conducted within the state. Approximately half of these tests are observed by Air Division staff. Also, approximately 530 emissions test protocols are reviewed.

ADEM has a comprehensive plan for evaluating the certification and recertification of continuous emissions monitoring systems. During a typical year, between 20 and 25 CEMS are audited for precision and accuracy, 66 certification or recertification tests of CEMS are observed, and 92 reports are evaluated. Regarding the Acid Rain Program, Air Division staff perform one Level III audit each fiscal year, 26 CEMS certifications are observed, and 54 reports are evaluated.

The Visible Emissions Certification Program consists of two "smoke schools" that are held annually. These schools are conducted in the spring and fall and are open to agency personnel, other regulatory personnel, consultants, and members of the regulated community. The purpose of the program is to train and certify participants to meet federal requirements for making visible emissions determinations. Each school consists of an online lecture that was developed by ADEM personnel. It also includes an online examination and course critique. Following the online portion, there are two days of field training and testing. The lecture certification is valid for three years, and the field certification is valid for six months.

Stack Testing

PROGRAMS

Crenshaw County

Asbestos / Open Burning Control

Special Services conducts field patrols of sources of air pollution once or twice a month, regulates demolition and asbestos abatement and cotton gins, manages the air pollution complaint systems, and is the open burning contact for the Air Division. Special Services staff also investigates air pollution complaints involving non-permitted sources, which constitute 90% of all incoming complaints.

In 1990, the EPA revised its 1973 asbestos regulations and delegated the authority to implement them to ADEM the following year.

These regulations are applicable for all demolitions of regulated structures, regardless of whether asbestos containing material (ACM) is present or not, and for renovations of regulated structures that will disturb friable (reducible to powder by hand pressure) ACM of at least 160 square feet, 260 linear feet, or 35 cubic feet.

Regulated operations require that the removal contractor or property owner submit a written notification to the appropriate air pollution control agency at least 10 week days prior to the first day of demolition or the first day that the ACM will be disturbed. Regulated ACM must be wetted before and during removal and thoroughly soaked afterwards. Waste ACM must be sealed in a leak-tight, properly labeled container while wet. All regulated removals involving friable ACM must be performed by a company certified to do so by ADEM.

ADEM recommends that non-friable ACM be removed by a certified contractor. However, all cementitious, non -friable ACM must be removed prior to a demolition operation. ACM such as vinyl asbestos floor tile and mastic may be left in a building prior to demolition.

In 1996, the ADEM Land Division removed non-friable ACM waste as a type of special waste. This allows non-friable ACM to be part of the normal waste stream, with no packaging or wetting requirements. The Air Division urges generators of non-friable ACM waste to use BMPs in the handling and disposal of this waste. Coordination between Air and Land division ensures proper management of all the waste.

Meteorology

INTERNAL SUPPORT ACTIVITIES

ADEM' Meteorological staff are responsible for air dispersion modeling, air quality forecasting, and attainment demonstration modeling. In some situations, including the Prevention of Significant Deterioration (PSD) Program, receiving a permit may involve air dispersion modeling to determine the impact of source emissions on air quality. Meteorological staff evaluates the modeling performed by permit applicants to ensure that the proper procedures, models, and data were utilized.

In 1996, ADEM began air quality forecasting. The meteorologists issue daily air quality forecasts for the cities of Birmingham, Huntsville/Decatur, Columbus (GA)/Phenix City and the Mobile area. The purpose of air quality forecasting is to issue alerts on days during which weather conditions are expected to be favorable for concentrations to approach or exceed the National Ambient Air Quality Standards (NAAQS). This gives the public an opportunity to voluntarily reduce emissions and also affords asthmatics and other sensitive groups the opportunity to minimize their exposure to unhealthy air quality.

Modeling is also performed periodically to determine whether areas of the state should be designated as attaining or non-attaining the NAAQS. For areas that are designated as nonattainment, modeling is then completed to determine the emissions controls needed to reduce pollutant concentrations to levels lower than the NAAQS. For the 1 hour SO_2 NAAQS, promulgated in 2010, modeling or monitoring was completed for large SO_2 sources across the state to determine the attainment status for each county. Through these modeling initiatives, the state has been able to attain the Ozone standard, the 24-hour and Annual $PM_{2.5}$ (2.5 micrometers) particulate matter standards and the 1 hour sulfur dioxide (SO_2) and nitrogen dioxide (NO_2) standards. In addition, meteorologists work on the development of Regional Haze SIPs with the aim of improving air quality to natural conditions at Alabama's one Class I area, the Sipsey Wilderness Area within the Bankhead National Forest in Northwest Alabama. These SIPs are developed and submitted to EPA every 10 years, beginning in 2008, and involve working with other Southeastern states to accomplish the photochemical modeling and the development of emissions inventories to include in the SIP.

Meteorological staff is also actively involved in education and outreach activities. ADEM meteorologists visit schools, civic clubs, and other organizations on a regular basis to educate children on weather and air quality.

ADEM meteorologists utilize computer models, weather forecasts, and other data to issue air quality forecasts in Huntsville, Birmingham, Columbus (GA)/Phenix City, and Mobile.

INITIATIVES

Air Electronic Emissions Reporting System

The Air Division has undertaken several projects to better facilitate the transfer of information from regulated entities. The first is the Air Electronic Emissions Reporting System (AEERS), which provides a web-based tool for the collection of emissions information from all major sources, which was first utilized in 2016. This system allowed ADEM to move from a paper system for reporting and decreased data entry burden on technical staff, allowing more focus on the quality assurance of emissions data. This data provide the basis for ADEM's annual emissions inventory submissions to EPA, as well as the foundational data for calculating annual fees from major sources.

Another project is the transition to the AEPACS, which is an electronic system that allows facilities to apply for and maintain permits as well as submit required documents, compliance reports, or other information to the Department.

Currently, only the Stage 1 Vapor Recovery program within Air Division uses the AEPACS system. All permitting and certification programs are scheduled to utilize AEPACS.

ADEM Main Office
Montgomery

INITIATIVES

Attainment of All National Ambient Air Quality Standards

Particulate matter is classified as a criteria pollutant that contributes to a range of health impacts, especially in young children with asthma and elderly people with respiratory problems. Two air quality standards have been developed for particulate matter: a daily standard promulgated in 2006, as well as an annual standard promulgated in 1997.

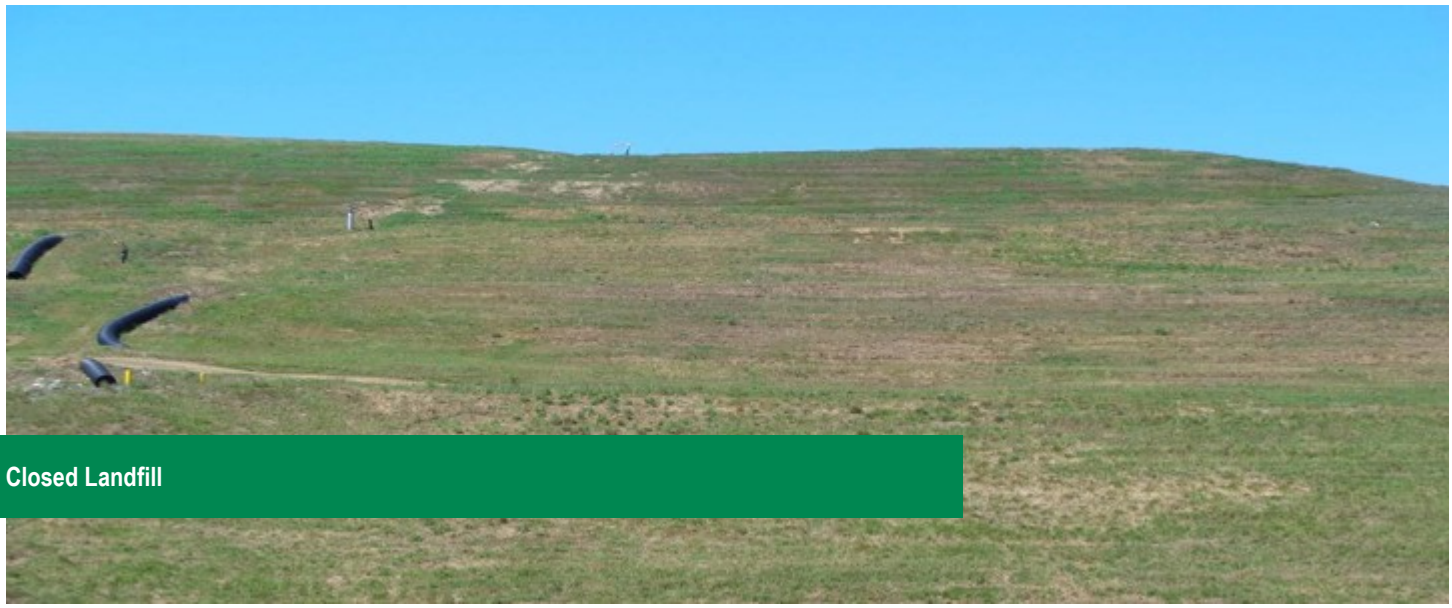
Monitoring data from the Birmingham area has shown that the area met the daily and annual standards since 2009 and 2010, respectively.

In 2013, the EPA approved the request from the Department to formally redesignate Jefferson County, Shelby County, and a portion of Walker County as being in attainment of the current National Ambient Air Quality Standards (NAAQS) for fine particulate matter.

As a result, the Birmingham area has achieved attainment for all six of the pollutants for which NAAQS have been established. This represents the first time in more than 30 years that the Birmingham area has achieved this important goal. These improvements in air quality are the result of emission reductions that have been achieved through a wide range of regulatory efforts implemented by EPA, ADEM, and the Jefferson County Department of Health.

DIVISION

Land



Closed Landfill

Overview

The Land Division administers eight sets of state regulations in addition to assisting EPA in the implementation of the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Toxic Substances Control Act (TSCA) Polychlorinated Biphenyls (PCB) programs. The Land Division has primary jurisdiction over disposal of solid and hazardous waste within the state and the remediation of contaminated sites. Major programs include Hazardous Waste, Underground Storage Tanks, Solid Waste, Remediation, Scrap Tire, and Brownfields/ Voluntary Cleanup. Several other programs are also administered by the Land Division.

Programs such as Voluntary Cleanup and Brownfields have enabled facilities to voluntarily address environmental concerns and return those sites to usable space that has an economic benefit for the state. The Alabama Scrap Tire Environmental Quality Act (ASTEQA) allows for the assessment and remediation of scrap tire dumps throughout the state.

Following the ASTEQA, the Alabama Solid Waste and Recyclable Materials Management Act was passed in 2008, which has funded the cleanup of numerous unauthorized dumps and provided recycling grants for local governments. Having these programs along with others under one division promotes effective assessment, remediation, and restoration of contaminated sites to ensure the protection of both the environment and the citizens of Alabama.

PROGRAMS

Landfill Permitting and Oversight

Solid Waste management includes ADEM's Solid Waste, Coal Combustion Residuals (CCR) , Beneficial Use, Recycling, Scrap Tire Marketing and Scrap Tire programs along with landfill permits.

Funding for the Solid Waste Program and Recycling Program originates from the $1.00 per ton tipping fee assessed on solid waste disposed of in Alabama landfills. The Scrap Tire Environmental Fee funds the Scrap Tire Program to support the cleanup of scrap tire dumps through the assessment of a $1.00 per tire fee on all retail tire sales in Alabama.

The Solid Waste and CCR programs are responsible for the management of the 175 regulated solid waste disposal facilities throughout the state. State solid waste regulations have been in place since 1981. However, the rules were amended in April 2018 to include the operation and closure of CCR units at electric generating plants. This includes overseeing permitting, compliance and enforcement issues at each facility.

Working Landfill

PROGRAMS

Hazardous Waste Management

The Hazardous Waste Management Program identifies hazardous wastes and establishes standards for their accumulation, transportation, storage, treatment, and disposal. In 1987, ADEM became authorized under the Resource Conservation and Recovery Act (RCRA) to manage the hazardous wastes in Alabama. Under the established guidelines of EPA, ADEM has accomplished a 100% goal for the RCRA permitting baseline goal at a pace that exceeded EPA interim goals.

A notable accomplishment for the program was the permitting of the state's only commercial Subtitle C (Hazardous Waste) landfill. Through its administration of permitting, compliance monitoring, and enforcement of these preventative measures, the overall standard of care for managing hazardous wastes has greatly increased throughout the state as compared to that exhibited prior to the establishment of modern regulatory controls and standards. As a result, there have been no significant impacts to the environment from post-regulatory waste management practices. In addition, through recycling and innovative process controls employed at the point of generation, Alabama has seen a sharp decline in the quantity of hazardous wastes being disposed of each year.

In 1996, ADEM became authorized to manage the corrective action activities for many of the sites that had been identified. Approximately 200 of those sites have corrective action cleanups under way or have been completed.

There are 12 sites in Alabama currently listed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) National Priorities List (NPL). ADEM has provided either lead regulatory oversight or support oversight to EPA for each of these sites. Between 2010 and 2020, four sites were determined ready for anticipated reuse, and two sites were delisted because cleanup goals were accomplished.

In addition to these sites, ADEM continues to make significant progress at Department of Defense (DOD) installations located in Alabama to further support DOD's mission needs and anticipated future reuse of property. ADEM, in cooperation with the Department of the Army, has expedited the cleanup of multiple restoration sites at Redstone Arsenal to support DOD's overall mission. One example was the expeditious cleanup that reduced the period needed by the Army to obtain regulatory approval by more than one year and allowed the construction to begin on the Raytheon Missile Production Facility ahead of schedule. Also, more than 135 individual sites have completed an investigation at Redstone Arsenal, at least 55 sites have an approved corrective action plan, and more than 50 sites have been determined to be ready for reuse. In many cases, the work that has been performed at Redstone has utilized leading-edge technology and paved the way for these technologies to be used across the nation for the investigation and cleanup of military munitions, as well as chlorinated solvents in groundwater.

Ongoing investigation and remediation at the Anniston Army Depot facility have resulted in addressing historical contamination across the installation and continue to support the protection of an endangered species of fish that live in a natural spring near the Depot.

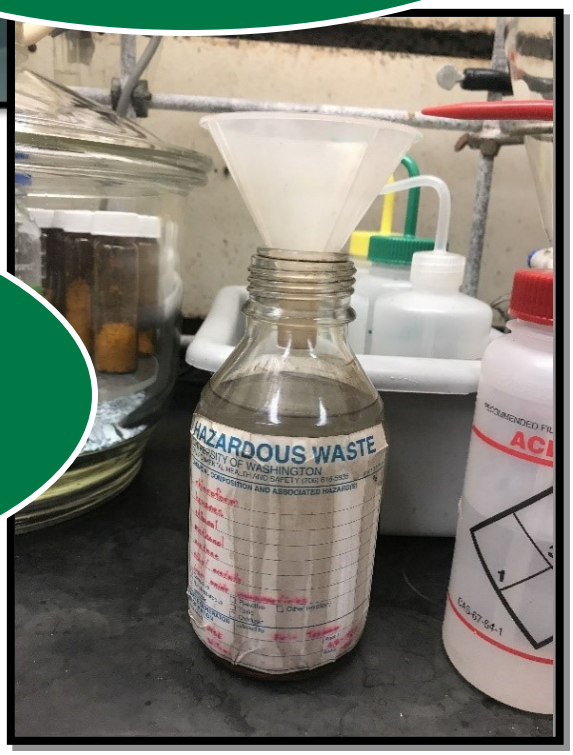
ADEM has also worked with DOD in the restoration of Formerly Used Defense Sites (FUDS) such as Camp Sibert (a major WWII era site) and Base Realignment and Closure (BRAC) sites such as the former Fort McClellan to provide oversight of investigation and cleanup of residual chemical warfare material (CWM), conventional munitions and explosives, and other hazardous substances that were left behind after site closure. Under a cleanup agreement with the McClellan Development Authority (MDA and formerly Joint Powers Authority),

ADEM has provided oversight of the investigation and cleanup of sites at the Former Fort McClellan with soil, groundwater, and surface water contamination, including chlorinated solvents, metals, and munitions-related material.

Approximately 164 parcels at Fort McClellan have achieved a no further action determination, and 62 parcels (comprising roughly 3,300 acres) have implemented corrective measures with executed restrictive covenants.

Approximately 3,779 acres have been cleared of munitions and explosive materials. A total of 14,338 munitions and nearly 3 million tons of related scrap were destroyed. A Big Bang ceremony was held on October 15, 2014 by the MDA to celebrate the last munitions destroyed on base.

In 1987, ADEM became authorized under the Resource Conservation and Recovery Act (RCRA) to manage the hazardous wastes in Alabama in lieu of EPA.



Under the established guidelines of EPA, ADEM has accomplished a 100% goal for the RCRA permitting base-line goal at a pace that exceeded EPA interim goals.

PROGRAMS

Underground Storage Tank

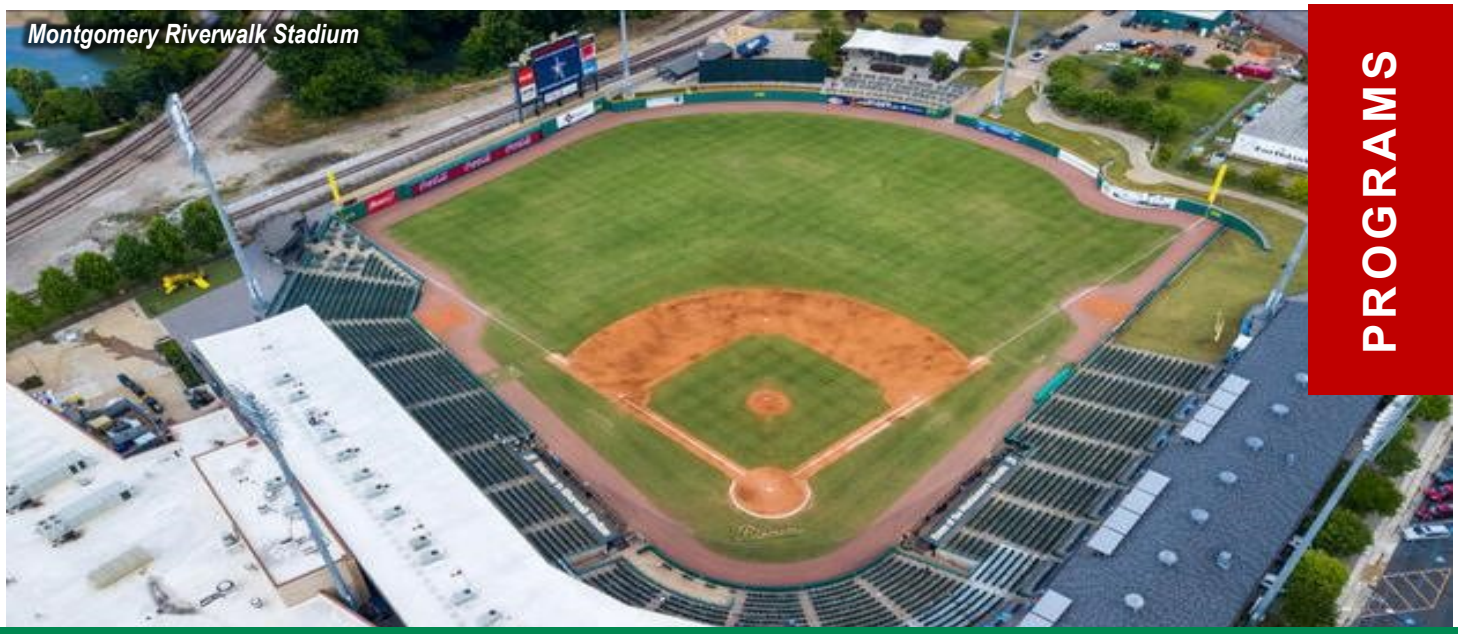
The Underground Storage Tank Program regulates underground storage tanks (UST) containing petroleum and hazardous substances. The UST Corrective Action program oversees corrective actions and cleanup of releases from underground and aboveground storage tanks. The program administers the Alabama Underground and Aboveground Storage Tank Trust Fund, which serves as a financial responsibility mechanism for underground storage tank owners/operators and for aboveground storage tank owners who meet the eligibility requirements. Abandoned UST sites are investigated and remediated through the administration of the Leaking Underground Storage Tank Trust Fund, which receives funding from EPA.

Since 1988, more than 11,400 releases from underground storage tank systems have been cleaned up. Many of these were cleaned up during the removal of underground storage tank systems. Of this number, 2,831 UST releases were cleaned up utilizing funding available through the Alabama Underground and Aboveground Storage Tank Trust Fund. Over the last 34 years, $751 million has been reimbursed to eligible tank owners for site investigations, site cleanup and third-party claims at more than 3,450 eligible release sites.

On November 15, 2021, the EPA re-authorized Alabama's Underground Storage Program regulations after an extensive review, determining that Alabama's program met all federal requirements.

Remediated Underground Storage Tank

Since 1988, more than 11,400 releases from underground storage systems have been cleaned up.


Montgomery Riverwalk Stadium

PROGRAMS

Almost 500 properties returned to productive use.

Brownfield Redevelopment and Voluntary Cleanup

The Brownfields and Voluntary Cleanup Programs have assessed, cleaned up, and returned to productive use almost 500 properties that were either contaminated or thought to be contaminated. Brownfield sites are usually idle, underutilized, or abandoned and provide no useful benefit to the community. ADEM has conducted brownfields initial assessments for local governments and non-profit organizations in an effort to support redevelopment and potentially increase employment and local tax bases while removing blight in the communities. Through this program, these sites have been converted into viable assets. Currently, ADEM has about 450 applicants in the program.

In 2008, ADEM began assessing sites along the Selma-to-Montgomery Historic Voting Rights Trail (Trail). ADEM partnered with EPA, the National Parks Service, and other federal and state agencies to assist communities along the Trail to identify brownfield sites, assess sites, and share information with community leaders about remediating and redeveloping these sites to rehabilitated useful areas, increased employment opportunities, increased local tax bases, and conserved greenspace.

Activities began in 2009 to create a workgroup of federal agencies, state agencies, and municipalities to promote redevelopment and job creation. ADEM conducted a brownfields survey of petroleum sites located along the Trail, and with assistance from EPA, conducted a number of site assessments.

Since 2009, numerous meetings with community leaders, municipal and county officials, developers, financiers, and concerned citizens have been held in Selma, Pell City, Hayneville, Sheffield, Tuskegee, and West Montgomery. In addition, outreach activities have been conducted that include visioning/charrette sessions in West Montgomery, Pell City, Hayneville, Selmont, Selma, Hartselle, Tuskegee, Tallassee, and Uniontown.

In 2020, the program began conducting brownfield inventory activities throughout the Black Belt to identify potential sites that could promote redevelopment in West Alabama. These efforts have sparked interest by local officials to apply for various redevelopment funding opportunities.

PROGRAMS

Beneficial Use

In 2017, the Beneficial Use Program was established to monitor land application activities impacting soil and water quality in the state. By 2020, Beneficial Use rules were developed and implemented with input from farmers, environmental groups, and industrial groups.

The Beneficial Use Program helps reduce the waste going into landfills and encourages a more circular economy through the recognition that some organic and industrial by-products have nutrient value and can replace commercially manufactured fertilizer for agriculture purposes. In 2021, there were 140 total active registrants, including generators and distributors. The Beneficial Use Program continues to provide inspection and oversight as applications increase each year.

Recycling

The Recycling Program is responsible for grants and facility registrations in communities where there are local recycling efforts. The Recycling Facility Registration Program, which went into effect in 2010, regulates the management of reusable materials in Alabama. Recycling facilities are required to register with the ADEM and maintain records of the amount of materials recycled. The Alabama Recycling Rate of 25% was adopted in 2008 with the Solid Waste and Recyclable Materials Management Act. The state has consistently reached and exceeded this goal since 2017.

In 2013, the Recycling Program established the School Recycling Challenge (SRC). The SRC allows for Alabama schools to participate in a recyclable materials collection competition. ADEM awards participating schools a small grant to establish recycling practices on their respective campuses. Over the years, the SRC has evolved from four schools competing once per year, to four schools competing twice per year, to the current iteration of the SRC. Now, the SRC targets a specific county in the fall and focuses on the state as a whole in the spring. In the time of the challenge, more than 39 tons of recyclable materials have been diverted from Alabama landfills by 58 schools.

Prattville

In 2014, ADEM granted funds for the use of recycled tire material at the City of Prattville Field of Dreams. The field was designed for children and adults with mental and physical disabilities to play on a custom-designed recycled tire turf field that accommodates wheelchairs and other assistive devices while helping to prevent injuries.

Scrap Tire

PROGRAMS

In 2003, the Alabama Scrap Tire Environmental Quality Act was signed into law and provided a funding mechanism for scrap tire management through the assessment of a $1.00 per tire fee on all retail sales of tires in Alabama. The Act also prescribed how collected funds were to be allocated to support activities of fund disbursement, regulation, marketing, site remediation, and county delegation. Additionally, it directed ADEM to establish a ranking system for accumulation sites and regulations for the management, transportation, disposal or reuse of scrap tires and a regulatory system for site remediation. The regulatory program instituted provides for the registration of Scrap Tire Receivers, which includes separate classes for tire retailers, and salvage and fleet operations. The permitting program initiated provides for permitting of scrap tire transporters, processors and end-users, and includes provisions for the storage and transportation of scrap tires as well as other requirements.

Since establishment of the Scrap Tire Regulations in 2004, ADEM has continued to permit, register, inspect, and regulate scrap tire facilities across the state of Alabama. In 2020, there were 2,747 sites in the AEPACS system for registered scrap tire facilities, including receivers, transporters (in-state and out-of-state), and processors.

The Scrap Tire Marketing Program was originally managed by the Alabama Department of Economic and Community Affairs (ADECA) but was transferred to ADEM in 2009. It continues to demonstrate the potential beneficial end uses of scrap tires such as scrap tire-derived products and applications, and their suitability for substitution of new raw materials. The program aims to support research and demonstration of end uses that may overcome current misconceptions and technical barriers and hopefully also lead to more widespread implementation. ADEM utilizes an open grant process to solicit, evaluate, and select local government-sponsored demonstration projects for reimbursement. Such projects are meant to encourage the use of tire-derived products and applications within Alabama. The program has provided more than $9.2 million for the implementation of Scrap Tire Marketing projects in the state, such as rubber-modified asphalt, recycled tire mulch, walking tracks, and solid rubber surfacing. These projects have not only provided stated environmental and economic benefits in their application, but have improved communities and public facilities across Alabama.

Lake Guntersville State Park

The Scrap Tire Marketing Program has provided more than $9.2 million for the implementation of projects in the state, such as rubber-modified asphalt, recycled tire mulch, walking tracks, and solid rubber surfacing.

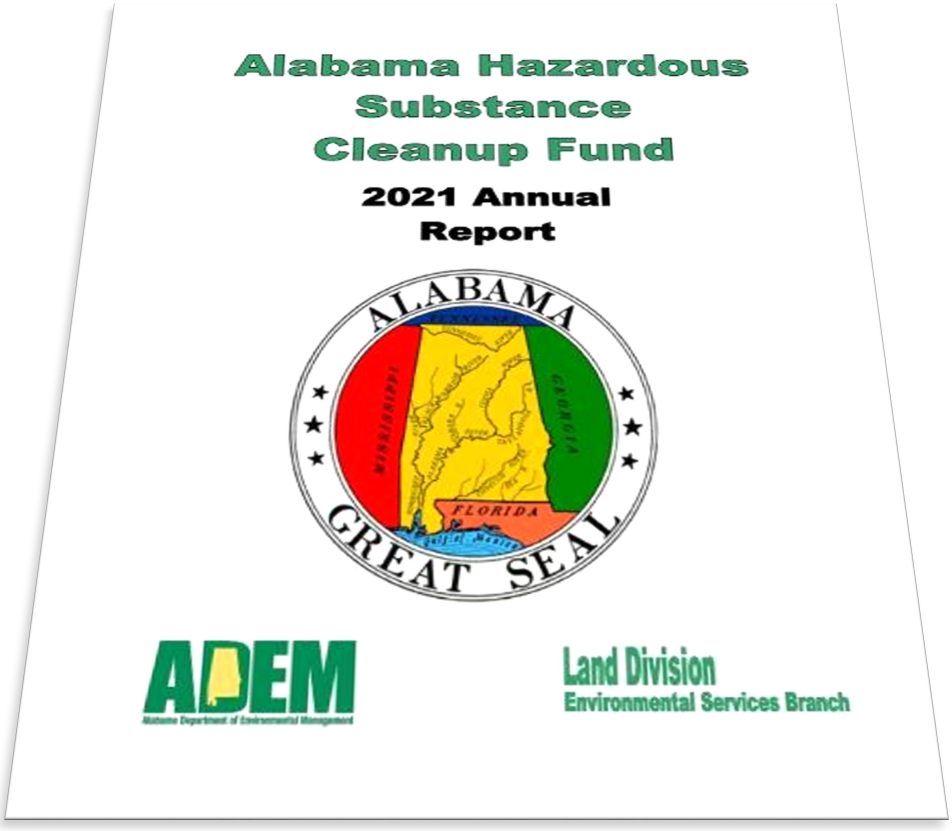
INTERNAL SUPPORT ACTIVITIES

Environmental Services

ADEM's Environmental Services is responsible for the Alabama Hazardous Substance Cleanup Fund (AHSCF), Dry-cleaning Environmental Response Trust Fund (DERTF), and Unauthorized Dump Sites (UAD). Since 1990, 388 sites have been addressed under the AHSCF, with an expenditure of approximately $5.3 million. Many other sites that were initially screened by ADEM under AHSCF have been referred to the appropriate state and/or federal program for assessment and cleanup. Some are considered Superfund-equivalent sites, which are being assessed jointly by ADEM and EPA.

The Alabama DERTF is administered jointly by the Alabama Dry-cleaning Environmental Response Trust Fund Board (DERTFB) and ADEM. Registration fees for the dry-cleaning industry are collected for the fund and used by the DERTFB to pay for the cost of investigation, assessment, and remediation of environmental contamination resulting from dry-cleaning operations. DERTF is managed as a voluntary dry-cleaning industry self-insurance program. Monies from DERTF are used for the payment of the cost of investigation, assessment, and remediation of dry-cleaning contamination incurred by dry cleaners, persons owning abandoned dry-cleaning facilities, wholesale or distributors.

Removals and Response staff respond to complaints of UADs and have achieved cleanup of more than 2,000 UADs by enforcement actions or through Solid Waste Fund projects. Nine large scrap tire remediation projects have been completed at a cost of more than $8 million. From those nine sites, approximately 8 million passenger tire equivalents were removed with more than 50% beneficially reused in lieu of landfill disposal.



INITIATIVES

Anniston Chemical Demilitarization Facility

The Anniston Chemical Demilitarization Facility (ANCDF) was constructed and operated with the sole purpose of safely destroying 661,529 nerve agent and mustard agent filled munitions that were stored onsite. While the destruction process began in August of 2003, the Department's work began more than 10 years prior to that date when ADEM scientists and engineers began reviewing applications and preparatory materials. ADEM issued the Alabama Hazardous Waste Management Act Permit in July of 1997 after more than 25 public hearings and public availability sessions were held in the community in an effort to better inform the public about the destruction process.

Beginning in August of 2003, ADEM monitored activities at the ANCDF 24/7 and committed more than 71,000 work hours to ensure adherence to permit and regulatory requirements. Out of the three locations where the Army has operated chemical agent incineration sites, only the ANCDF site was monitored 24 hours a day by the state regulatory agency. The last of the 661,529 munitions was destroyed on September 22, 2011. Following more than eight years of operation and more than a year of closure operations, ANCDF was granted a certificate of clean closure from ADEM in September 2014.

ANCDF Facility, Anniston

INITIATIVES

Per- and Poly-fluoroalkyl Substances

The Land and Water divisions reached an interim consent order (ICO) with 3M Company on July 24, 2020, that holds 3M accountable for cleaning up per- and polyfluoroalkyl substances (PFAS), sometimes called "forever chemicals," from its plant in Decatur and at multiple sites in northwest Alabama. It also commits the company to long-term obligations to investigate and report on the presence of the chemicals and to research their effects on public health and the environment. As part of the ICO, ADEM approved the Toxicity Studies Plan, which will evaluate the hazard identification, dose response and exposure risk, and help develop screening levels of PFAS constituents. ADEM also approved the initial Environmental Studies Report, which provided existing physical and chemical parameters for PFAS to assist the evaluation of fate and transport in the environment.

Site investigations under the ICO continue to make progress, in which the Onsite (Decatur) Investigation Report has been submitted to the Department. Four of the 14 disposal sites that were identified in the order have been assessed. Once these investigations are complete, the parties will move toward potential remediation of the site.

ADEM approved the Residential Water Use Determination and Action Plan to identify all reasonably ascertainable private drinking water wells that may be impacted by PFAS from the facility or from offsite locations identified through the ICO. The plan outlines testing to determine if the well exceeds EPA PFAS drinking water health advisory levels, and offers to provide either the connection of the private well owner to a public water supply or provide a suitable alternate drinking water supply.

In Fiscal Year 2021, a Multipurpose Grant was awarded to proactively investigate and identify any potential sources of PFAS in the state. Monitoring data were gathered from the water systems of Alabama, and a Geographical Information Systems (GIS) map was developed to identify PFAS sources for further investigation.

School Chemical Cleanout

Working under small EPA grants, ADEM visited numerous Alabama public high schools concentrating on those that received Title I funds (which service environmental justice communities). The visits revealed that up to half of the schools had outdated laboratory chemicals which would be classified as hazardous waste upon disposal. The schools had been holding the chemicals for extended periods due to both a lack of funding for disposal and lack of information on proper disposal. ADEM assisted these schools in identifying the wastes that needed to be disposed, safely packaged the wastes, and transported them to a permitted hazardous waste landfill. ADEM also provided educational guidance in reducing or eliminating the need for stockpiling laboratory chemicals for future use.

As part of this effort, ADEM removed more than 10 tons of waste chemicals from 110 public schools in Alabama. ADEM also removed more than 100 pounds of elemental mercury and more than 500 mercury thermometers and mercury-containing devices from another 45 schools. In 2009, ADEM was recognized for the Schools Chemical Cleanout Campaign by EPA at its School Chemical Cleanout Campaign (SC3) School Labs Cleanout Awards Meeting. Alabama was one of only two states to be recognized for this award.

INITIATIVES

Department of Defense and State Memorandum of Agreement

To expedite the cleanup of hazardous waste sites, solid waste sites, munitions sites, and other areas of concern on current and former Department of Defense (DOD) installations, DOD and ADEM entered into the Department of Defense and State Memorandum of Agreement (DSMOA) on November 29, 1990. Under DSMOA, a Cooperative Agreement signed biennially serves as the funding mechanism by which ADEM receives federal financial assistance for eligible services at DOD facilities in support of environmental restoration.

This funding resource enables ADEM to ensure that adequate staff are available to provide regulatory review and oversight of DOD environmental restoration in Alabama, thus ensuring compliance with the applicable state laws and regulations. The national DSMOA Program fosters improved communication, coordination, and cooperation between states and DOD components in order to facilitate progress on projects to protect human health and the environment.

The State of Alabama receives approximately $2 million in cost reimbursements annually from the Department of Defense through the DSMOA program.

DIVISION

Water

Eagle Creek Falls
Winston County

Overview

Alabama, appropriately named “The River State,” has a tremendous resource of more than 129,700 miles of rivers, creeks, and streams within its borders. There are 425,748 acres of publicly-owned lakes and reservoirs, 610 square miles of estuaries, and 337 miles of coastal shoreline that add to Alabama’s abundant surface water resources. In addition, Alabama has an abundant supply of groundwater that is utilized for drinking water by more than 40% of the state’s citizens. The Water Division is responsible for administering the programs and daily activities that ensure the protection of these resources. Most functions of the Water Division fall under two federal statutes, the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA).

The Water Division also administers the CWA and the Alabama Water Pollution Control Act (AWPCA) to ensure water quality standards are achieved in Alabama’s rivers, lakes, and streams. This effort is accomplished by regulating point source discharges, including public and private municipal wastewater treatment plants and industrial wastewater treatment plants, as well as, with stormwater runoff from mining, construction, industrial, and municipal facilities.

The CWA sets a goal of water quality, wherever attainable, that provides for the protection of fish, shellfish, wildlife, and recreation in, or on, the water. To this end, the Water Division evaluates and classifies all waters of the state.

Kinlock Falls
Haleyville

PROGRAMS

Surface Water Permitting and Oversight

ADEM administers the National Pollutant Discharge Elimination System (NPDES) Program that regulates discharges of pollutants to Alabama waters. Improvements to the quality of water over the past 40 years can be directly linked to the implementation of the NPDES Program. Individual and general NPDES permits set technology-based and water quality-based effluent limits to maintain applicable water quality standards to ensure protection of aquatic life and human health. Discharges include process wastewater and storm water runoff originating from a variety of sources. As of 2022, ADEM regulates more than 9,900 NPDES permittees.

Facilities that discharge pollutants into a surface water of the state must obtain a permit and implement treatment technologies and/or BMPs to control potential pollutants in wastewater discharges or storm water runoff. Facilities must routinely monitor their discharge for compliance purposes.

ADEM utilizes both NPDES individual permits and general permits to establish appropriate permit requirements and conditions for regulated entities. Individual NPDES permits contain specific, point source conditions for a regulated facility. General permits may apply to multiple facilities that have similar types of operations and discharges. General permits typically apply to smaller facilities and allow ADEM to efficiently and effectively regulate numerous sources. Currently, the Water Division has developed 24 general permits covering a variety of industrial and other sectors. General permit issuance began in 1992, and the Water Division has begun reissuance of the initial general permits for a 7th permit cycle. Thousands of facilities have obtained coverage under ADEM's general permits.

ADEM also administers the State Indirect Discharge (SID) Permit Program, which provides regulatory oversight for industrial facilities that discharge into publicly or privately owned wastewater treatment systems. Currently, ADEM regulates approximately 316 facilities through SID permits.

ADEM has made significant progress in the development of sanitary sewer overflow (SSO) tools. Since the inception of eFile, SSO reports have been available electronically to the public. However, these reports were not available until the hard copy reports were processed. SSOs are now required to be reported electronically. ADEM has developed real-time tools to allow the public to review details of the reported SSOs, so that timely decisions on recreation locations can be made. ADEM's website contains a map displaying recently reported SSOs, with hyperlinks to information on each report. The public may also elect to receive an opt-in email when SSOs are reported in selected counties. Additionally, a map that identifies all permitted NPDES municipal wastewater outfalls (discharges to waterbodies and to spray fields) is located on the ADEM's website. The development of Sanitary Sewer Overflow Response Plans (SSORPs) has also been required in municipal NPDES permits so that SSOs are proactively addressed. ADEM, in conjunction with the Alabama Rural Water Association, developed a SSORP template to assist permittees in the development of these plans.

EPA has recognized ADEM for the low percentage of significant noncompliance at NPDES major facilities. EPA has utilized ADEM's program as a best practices example for other states' and EPA offices' compliance/ enforcement programs.

Coosa River

PROGRAMS

Drinking Water

As recently as 100 years ago, thousands of U.S. residents died annually as a result of waterborne diseases carried by drinking water. Improvements in drinking water treatment and distribution have helped to eliminate these health concerns. The enactment of the SDWA in 1974 was a major milestone, as was the Alabama Legislature's adoption of the Alabama Safe Drinking Water Act (SDWA) in 1977.

Alabama has approximately 572 public water systems supplying Alabama citizens with drinking water. Alabama drinking water systems have a 98% compliance rate with EPA's health-based maximum contaminant levels (MCLs). This has been achieved despite the addition of several major drinking water regulations, such as the Lead and Copper Rule, Stage 1 and 2 Disinfection Byproducts Rules, and the Revised Total Coliform Rule. Community water systems are operated by towns, counties, mobile home parks, and others. Non-community water systems are typically schools, industries, rest areas, and campgrounds that provide water to a more transient group of people. Additionally, water potability certificates are issued to ice producing facilities, meat processing facilities and dairies.

Through a variety of programs, ADEM provides assistance and oversight for water systems to ensure they have the technical, managerial, and financial ability to provide clean, safe drinking water to their customers. In 1997, the Alabama Area-Wide Optimization Program (AWOP) began assisting water treatment plant personnel to optimize turbidity performance. This program was initially designed to improve microbial removal, but has since been expanded to improve disinfection byproduct control, distribution system management, and operator training.

Lake Guntersville

PROGRAMS

Underground Injection Control

Alabama obtained primacy from EPA in 1982 to operate the Underground Injection Control (UIC) Program for the state. Alabama's UIC Program regulates the subsurface injection of wastewater and derives its state authority from the Alabama Water Pollution Control Act.

There are six well classifications (Classes I–VI) established under the SDWA. Class I wells (deep well injection below the lowermost Underground Source of Drinking Water, USDW) are banned in Alabama. Class II wells (injection of wastes related to the production of Oil and Gas) are regulated by the Oil and Gas Board of Alabama, and Class IV wells (shallow injection of hazardous waste) are banned nationally.

ADEM regulates the two well classifications, Class III and Class V. Class III wells are used in solution mining and Alabama has one Class III well field located in McIntosh. These wells solution mine salt from a natural underground salt dome deposit.

ADEM regulates more Class V wells than any other type. Many are for the subsurface discharge of treated sanitary sewage from wastewater treatment facilities serving residential areas or businesses. ADEM currently administers UIC permits for 99 of these types of treatment systems with discharge flows greater than 15,000 gallons per day, while the Alabama Department of Public Health permits these types of discharges for volumes of 15,000 gallons per day or less.

Currently, ADEM has 163 permitted Class V operations that utilize injection wells in groundwater cleanup systems at contaminated industrial sites. There are 82 additional permitted injection well operations that make up the remainder of the inventory. These facilities discharge treated wastewater from various other industrial and commercial operations. Federal and state regulations prohibit the operation of Class V wells resulting in groundwater pollutants exceeding drinking water standards. Most of these wells discharge to shallow soil zones, either by gravity or low pressure shallow distribution systems. Operators are required to monitor the quality of groundwater.

Class VI injection wells are used to inject primarily carbon dioxide for the purpose of geologic sequestration in deep underground rock formations. The goal of this type of injection well would be to safely place and contain man-made carbon dioxide gas generated by energy producers deep underground in order to reduce carbon dioxide discharges to the atmosphere.

Class V Well

INTERNAL SUPPORT ACTIVITIES

Water Quality

Water Quality administers several programs pursuant to the CWA and the Alabama Water Pollution Control Act. These programs fall under the broad category of surface water protection and management. Waters in the state of Alabama are classified in one of seven designated use categories: Outstanding Alabama Water, Public Water Supply, Swimming and Other Whole Body Water Contact Sports, Shellfish Harvesting, Fish and Wildlife, Limited Warmwater Fisheries, and Agricultural and Industrial Water Supply.

Waters classified as either Agricultural and Industrial Water Supply or Limited Warmwater Fishery have been reduced by more than 80%, from 713 miles to 138 miles. Waters classified as Outstanding Alabama Waters now account for approximately 343 miles of rivers and streams and 3,651 acres of lakes and coastal waters. The special Treasured Alabama Lake designation was created in April 2011, and Lake Martin, with a total of 40,065 acres, became the first waterbody in Alabama to receive this designation. Waters designated as Outstanding National Resource Waters now account for 805 miles of rivers and streams and 1,946 acres of other waters.

Water Quality compiles a list of waterbodies (303(d) List) that do not fully support their designated uses based on a review of water quality data and information. The list is submitted to EPA for approval after an opportunity for public comment. In addition to the causes and sources of water quality impairment for each waterbody listed, the list includes the priority for development of a Total Maximum Daily Load (TMDL) for each pollutant causing impairment. The latest Integrated 305(b) Report and 303(d) list are available on the ADEM website.

Water Quality develops TMDLs for pollutants in waterbodies included on Alabama's 303(d) list. TMDL is a term used to describe the maximum amount of a pollutant that a body of water can receive and still meet water quality standards. A total of 275 TMDLs have been completed and approved in the 15 major river basins within Alabama.

Waste Load Allocations (WLAs) are developed by staff engineers utilizing computer models to predict effluent limits that are protective of applicable water quality standards. ADEM staff have completed more than 1,000 WLAs to ensure point source discharges do not have a negative impact on water quality.

Noccalula Falls
Gadsden

Fishable/Swimmable Waters of Alabama

INITIATIVES

Automation of Permitting and Reporting

Several systems and electronic tools have been implemented to enable ADEM staff to focus their efforts on permitting, compliance, and enforcement activities by allowing data management to occur more efficiently.

In 2007, ADEM completed the implementation of the E2 Reporting System, which allowed permit holders to submit their Discharge Monitoring Reports (DMRs) electronically. This system saved paper, time, and data entry that were necessary with the paper forms. In addition, E2 data were available more quickly for compliance reviews, and permit holders could receive immediate confirmation that their data were submitted. This system has now been replaced with the ADEM's new Alabama Environmental Permitting and Compliance System (AEPACS) system.

eFile, ADEM's electronic, internet-based filing system, was implemented in 2009 to allow the public access to permits, compliance data, correspondence, and enforcement data.

In 2010, Alabama became a pilot state to test implementation of a data transfer link from ADEM directly to EPA's Integrated Compliance Information System (ICIS). Facility, permit, and compliance information is now being transferred into ICIS via the ADEM's AEPACS system.

In 2011, ADEM began implementing an electronic Notice of Intent (eNOI) system allowing general permit applicants to submit their applications online. This system has now been replaced with the AEPACS system.

ADEM Main Office
Montgomery

INITIATIVES

Lead Testing

Childhood exposure to lead has long been a concern of researchers and medical professionals. While public water systems are required to conduct rigorous testing to ensure the water they produce meets all health-based standards and is non-corrosive, there are no state or federal requirements for childcare centers or schools to test for lead in drinking water.

In March 2016, ADEM and Alabama State Department of Education (ALSDE) joined together to develop a voluntary school testing program in the absence of any federal or state regulatory requirement. The Master Plan was finalized in December 2016 and a detailed Sampling Plan was posted on ADEM's website. The goal of the program was to test approximately 1,500 public schools, consisting of approximately 8,000 buildings. After a successful three-year voluntary sampling effort in 2017-2019, ADEM and the ALSDE resumed sampling of drinking water in the state's public schools in the fall of 2021 with federal grant funding from EPA.

To promote public confidence and to help childcare facilities (daycare, pre-K, Head Start) minimize child exposure to possible high levels of lead in drinking water, the Alabama Department of Human Resources (DHR), Alabama Department of Early Childhood Education, and ADEM are assisting these facilities with voluntary testing for lead in drinking water. To assist with both the childcare and school facilities testing program, ADEM recruited the Alabama Rural Water Association (ARWA) that hosts training sessions for facility personnel on the recently revised EPA's 3Ts (Training, Testing, and Taking Action) program and provides on-site technical assistance as needed. The program was funded by a grant from the EPA and began in 2020.

EPA finalized the Lead and Copper Rule Revisions on December 17, 2021, which includes a requirement for public water systems to sample all childcare and elementary schools and conditionally secondary schools they serve.

PFAS Testing / Monitoring

In May 2016, EPA issued long-term health advisories for two per- and polyfluoroalkyl substances (PFAS) known as PFOA and PFOS. As a result of data collected during the Unregulated Contaminant Monitoring Rule 3 (UCMR3), several water systems were identified that exceeded the health advisory levels. ADEM has worked with the Alabama Department of Public Health (ADPH) to monitor and ensure that these water systems take appropriate action to notify their customers, and if needed, switch to alternate sources or install appropriate treatment. UCMR3 required all large systems and a representative sample of small systems to monitor for several PFAS compounds.

In accordance with ADEM Admin. Code r. 335-7-2-.10, the Department instructed water systems to carry out PFAS monitoring at all sources not previously sampled during UCMR3. The prescribed method is EPA Method 537.1, which measures 18 PFAS chemicals. Ground sources (wells) were required to sample once January 1 – June 30, 2020, and once July 1 – December 31, 2020. Surface water sources were required to sample once per quarter. The sampling took place from January 1, 2020 through December 31, 2020. Any results that were above the method reporting limit were posted on the ADEM website after the end of each quarter. In 2022, water systems that had not been sampled since UCMR3 were required to sample for PFAS, using detection limits that were lower than used during UCMR3. None of these system exceeded the lifetime health advisories issued by EPA in 2016.

In June 2022, EPA issued health advisories for 4 PFAS compounds, including new interim advisories for PFOA and PFOS that are orders of magnitude lower than the 2016 levels. New draft MCLs for these two substances are expected to be issued by EPA in late December 2022.

Mulberry Fork

DIVISION

Field Operations

Field Operations Montgomery

Overview

The Field Operations Division administers a wide variety of programs, including Emergency Response, Animal Feeding Operations/Concentrated Animal Feeding Operations, Coastal, Ambient Monitoring for Water/Air, and the Laboratory programs. Aside from these programs, the Field Operations Division carries out numerous support functions for the Department, including but not limited to, NPDES compliance inspections, solid waste facility and underground storage tank compliance inspections, stage one vapor recovery inspections, and complaint responses.

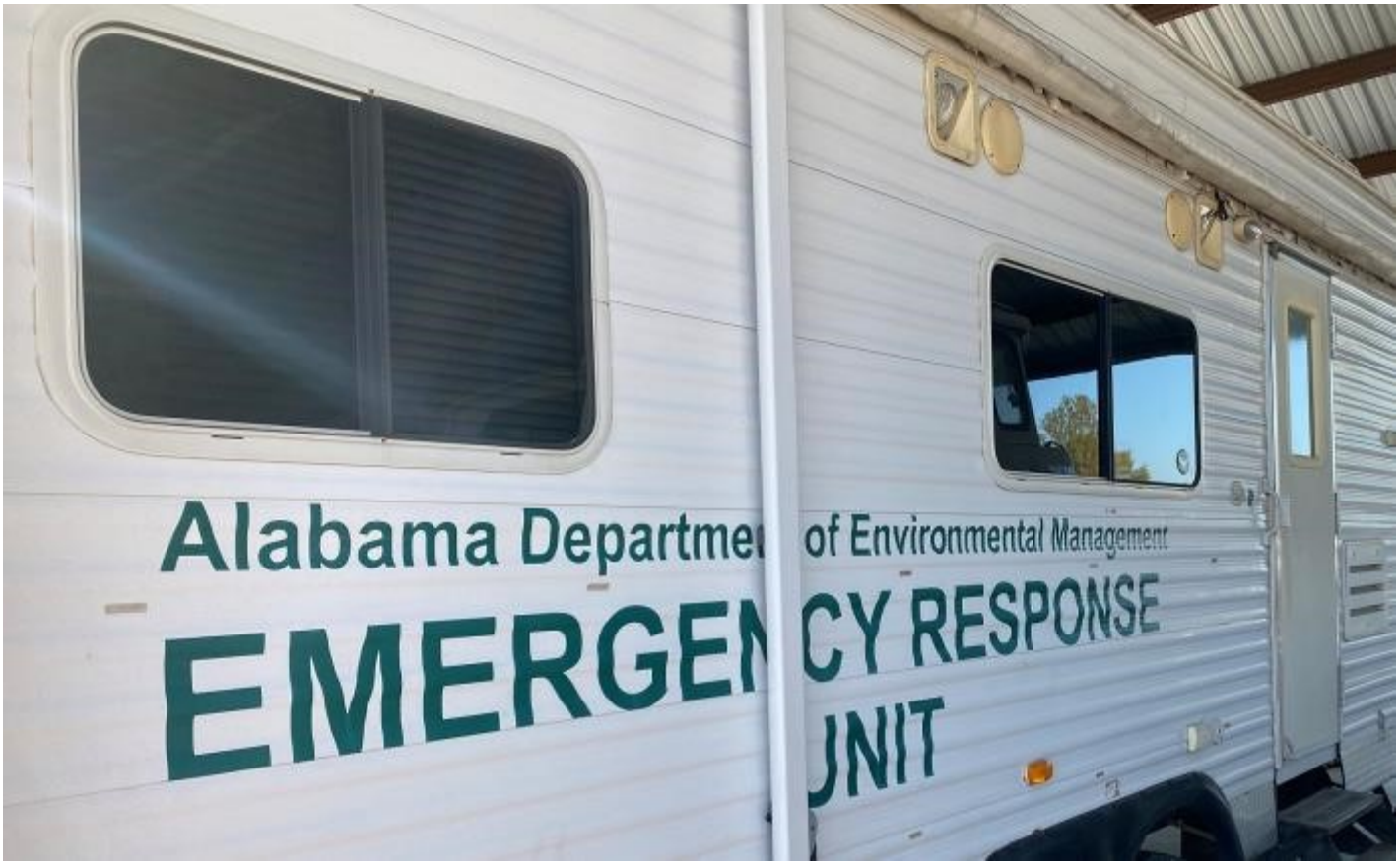
Field Operations utilizes four decentralized field offices in Birmingham, Decatur, Mobile, and Montgomery to meet ADEM's needs and allow the Department to increase efficiency, reduce costs, conduct inspections, and respond to citizen complaints in a timely manner. Having recognized the efficiencies and cost savings gained through this approach, decentralization has increased the number and variety of activities conducted by the field offices over the past 40 years.

PROGRAMS

Emergency Response

The Emergency Response program has grown from a few part-time responders to a group of highly trained and dedicated response staff. The program responds to a variety of environmental emergencies impacting the citizens and environment of the state.

Responses have included weather-related events such as Hurricanes Ivan and Katrina, the tornado outbreak of 2011, as well as, the BP-Deepwater Horizon oil spill, facility-based releases, a variety of air, railroad, pipeline, and highway transportation related emergencies. The program has grown through the development and implementation of the Incident Command System and the National Response Framework, which promotes better coordination among federal, state, and local response partners. The Emergency Response Program is better trained and equipped than ever to respond to environmental emergencies impacting Alabama.



PROGRAMS

Regulations Implemented for Animal Agricultural Facilities

In 1999, ADEM finalized regulations (ADEM Administrative Code Chapter 335-6-7) to implement requirements for Animal Feeding Operations (AFOs) to employ conservation practices that protect water quality. These include addressing animal waste, dead animal disposal, and other potential sources of pollution that are generated during these types of agriculture activities.

The regulations also establish a compliance assistance and assurance program to help producers meet the requirements of the regulations. Concentrated Animal Feeding Operations (CAFOs) have a requirement to register by rule with ADEM.

All AFOs/CAFOs are required to implement and maintain effective BMPs for animal waste production, storage, treatment, transport, and proper disposal or land application that meet or exceed the technical standards established by the National Resource Conservation Service (NRCS) and ADEM.

The regulations were modified in December 2020 to add a state registration permit option for eligible operations.

Broiler Chickens
Crenshaw County

PROGRAMS

Baldwin County

Coastal Resource Management

In 1972, Congress passed the Coastal Zone Management Act (CZMA) in order to improve the management of our nation's coastal areas. This Act created the Coastal Zone Management Program, which is administered by the National Oceanic and Atmospheric Administration (NOAA). In an effort to protect and enhance coastal resources and reduce potential conflicts between environmental and economic interests, the Alabama Coastal Area Management Program (ACAMP) was approved by NOAA in 1979.

Alabama's coastal area extends from the upland continuous 10-foot contour (10 feet above mean sea level) to the limit of the state's territorial waters three miles offshore. The responsibilities of the ACAMP are divided between the Alabama Department of Conservation and Natural Resources (ADCNR) and ADEM. These agencies are advised by the Coastal Resources Advisory Committee.

ADCNR establishes overall ACAMP Policy and is responsible for management of the program relating to planning, fiscal management, public information, and education. ADEM is responsible for the ACAMP enforceable policies as codified in ADEM's Division 8 regulations. The goal of this program is to protect and, where possible, restore or enhance coastal resources for current and future generations. In addition, the program continues to support the Mobile Bay National Estuary Program's Comprehensive Conservation and Management Plan, which was developed for estuaries of national significance that are threatened by pollution, development, or overuse.

The Coastal Waters Monitoring Program (CWMP) monitors the water quality of rivers, streams, and estuaries within Alabama's coastal area. Initiated in 2011, the CWMP unified several existing ADEM monitoring efforts under a single program that ensures consistency of techniques and increases overall monitoring efficiency. Approximately 50 stations are sampled for the CWMP each year, to include historical trend monitoring sites and new stations added in 2011.

For regulatory purposes, Coastal Waters were redefined in 2015 as waters delineated within the 10-foot contour line.

Coastal Beaches Water Quality Monitoring Program

Alabama's coastal beaches are a major tourist attraction as well as a lifestyle staple for Alabama residents. Alabama has approximately 50 miles of gulf beaches and an estimated 65 to 70 miles of bay beaches where the adjacent waters are classified for swimming under the state's Water Use Classification System. Bacterial contamination in Alabama's coastal recreational waters can originate from many sources, including shoreline development, wastewater collection and treatment facilities, septic tanks, urban runoff, disposal of human waste from boats, swimmers, commercial and domestic animals and wildlife. People who swim or conduct other recreational activities in waters contaminated with such pollution are at an increased risk of becoming ill. Pathogens associated with this type of pollution can cause ear, eye, skin and respiratory infections, gastrointestinal illness, and more serious diseases such as meningitis and hepatitis.

In 1999, to increase public awareness and provide water quality information to help the public make more informed decisions concerning their recreational use of Alabama's natural coastal waters, ADEM, in cooperation with the Alabama Department of Public Health (ADPH), initiated the Coastal Alabama Recreational Waters Quality Monitoring Program to routinely monitor bacteria levels at five public recreational beaches along the Gulf Coast. The effort was later expanded to include six additional sites along the Gulf Coast and Mobile Bay.

In October of 2000, the federal Beaches Environmental Assessment and Coastal Health (BEACH) Act was signed into law. This act mandates the monitoring and assessing of coastal recreational waters and the prompt notification of the public when applicable water quality standards are not being met. The act also authorizes EPA to award grants to help governments implement monitoring and notification programs consistent with the published EPA guidance and criteria. ADEM was designated as the state's lead agency for implementation of the BEACH Act and was awarded grant money to carry out this program. Through the BEACH Act, ADEM and ADPH expanded and enhanced monitoring and notification efforts for Alabama's public recreational beaches.

The monitoring program involves the routine collection of water samples from 25 high-use and/or potentially high-risk public recreational sites from Perdido Bay to Dauphin Island, including Mobile Bay. Depending on the site rankings, samples are collected twice per week, once per week, or once every other week during the swimming season (May through September) and once per month during the cooler months (October through April). Samples are analyzed for the indicator bacteria Enterococci. The indicator bacteria and the threshold concentration, which triggers an advisory, are based on recommendations provided by the EPA. All Enterococci analysis is performed by the ADPH Laboratory using approved EPA methods.

Approximately 17,000 samples have been collected since the inception of the Beach Monitoring Program, resulting in 274 advisories issued by ADPH. It is noteworthy that no advisories have been issued for Alabama beaches fronting the Gulf of Mexico.

Baldwin County

INTERNAL SUPPORT ACTIVITIES

Water Quality Monitoring

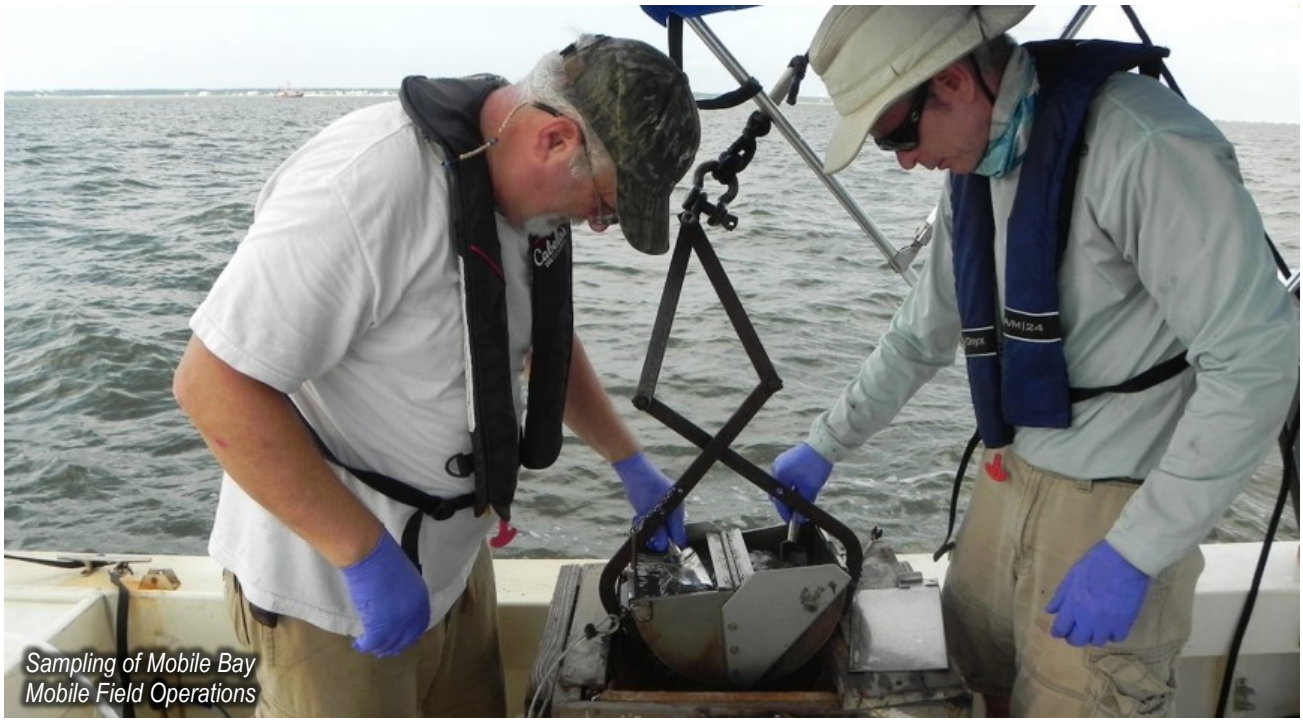
Monitoring the quality of the extensive water resources in Alabama is a multi-faceted effort encompassing several programs and approaches that include physical, chemical, and biological assessments.

With the initiation of the Fish Tissue Monitoring Program in 1991, ADEM greatly expanded fish collection efforts for contaminant analysis that began in the early 1970s. Through the cooperative efforts of ADEM, ADPH, ADCNR, and the Tennessee Valley Authority (TVA), data generated by the program are used to provide a statewide screening of contaminants in fish tissue, and to provide the ADPH with data needed for determination of potential risk to those who consume fish from Alabama waters.

In 2005, existing monitoring programs and activities were focused and intensified to assess water quality in large rivers, publicly-owned lakes, and reservoirs through the efforts of the Rivers and Reservoirs Monitoring Program, and in small rivers and streams through the Rivers and Streams Monitoring Program. These programs modified and enhanced existing efforts to fully assess water quality, ensure consistency of techniques, and increase overall monitoring efficiency.

Similar efforts to enhance and improve water quality monitoring in coastal waters led to the initiation of the Coastal Waters Monitoring Program in 2011, where multiple stations throughout coastal Alabama are intensively monitored on a three-year rotation. ADEM also began development of the Wetlands Monitoring Program in 2011, and is currently focused on identifying reference wetlands, defining wetland site classes, and developing methods and protocols for sampling these systems. Through these programs, surface waters throughout the state are monitored on a three-year cycle with more than 300 stations intensively monitored each year.

The extensive efforts of ADEM staff to improve and enhance these water quality monitoring programs led to the highest ranking possible (Level 4) for their biological assessments of water quality in a 2019 programs review by the Midwest Biodiversity Institute and EPA.



Sampling of Mobile Bay
Mobile Field Operations

Air Quality Monitoring

INTERNAL SUPPORT ACTIVITIES

Air quality monitoring is driven by NAAQS. As a result of health studies conducted on the national level, criteria for a number of pollutants have been developed (i.e., ozone, particulate matter, lead, sulfur dioxide, and nitrogen dioxide). When further research is conducted, it usually results in a lowering of the standard for the pollutant being studied, which necessitates an increase in the monitoring effort. Also, additional monitoring can be required as new methods of testing are developed.

Ground level ozone, created by chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOC), is the main component of smog. Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOC. Because even relatively low levels of ozone can cause health effects, particularly to people with lung disease, children, and older adults, monitoring for ground level ozone is focused in urban environments. The data collected from extensive ambient air monitoring networks have resulted in programs aimed at reducing ozone concentrations by reformulating fuels and consumer/commercial products, such as paints and chemical solvents.

Monitoring for total suspended particle concentrations is another area where the monitoring effort has evolved over the years. Particulate matter suspended in air has long been known to cause respiratory health problems, and for years monitoring focused on both the large and small (fine) particles. Research began to indicate that the fine particles caused the most problems, and new monitoring methods developed in the late 1980s allow monitoring to focus on particles smaller than 10 microns in diameter. In the late 1990s, additional improvements allowed monitoring to focus on particles smaller than 2.5 microns in diameter.

Montgomery


Dissolved
Metals
Nitric
Ice

Laboratory

Laboratory services are provided to the Department by the Central Laboratory located in Montgomery and the Birmingham and Mobile laboratories located at their respective offices. As they exist today, the ADEM laboratories provide a broad range of environmental testing to include inorganic, organic, and radiological analyses on various media ranging from drinking water, wastewater, soil, sediments, fish tissue, lead-in-air filters, and hazardous wastes. The Central Laboratory is fully certified by EPA to perform all inorganic and organic analyses required by the SDWA. The Mobile and Birmingham laboratories analyze most of the same parameters as the Central Laboratory's Inorganic Unit. This includes parameters such as alkalinity, hardness, pH, solids, biochemical oxygen demand, nutrients, and metals, among others.

Microbiological analysis of samples (primarily E. coli) is also performed in these three laboratories as well as in the Department's Decatur Office.

One of the Laboratory's greatest achievements over the past 40 years has been advancements in the ability to manage data. Prior to 1989, all information pertaining to the receipt of samples, the assignment of samples to the analysts, the recording of data, and the distribution of data back to the sample collector was handled and recorded manually. Beginning in October of 1989, the laboratory transitioned to a computer-based system where samples were logged into a database and a report of the sample results could be printed from the database. In 1996, the laboratory began using a Laboratory Information Management System that handles all aspects of the process from sample receipt through the reporting of results electronically.

Advances and enhancements in laboratory instrumentation have played a significant role in improving laboratory performance. Automation has reduced the amount of time required to analyze samples and has limited the need to hire additional analysts. Updated instrumentation that automatically feeds samples into the analyzer allows for increased efficiency so the analysts can operate multiple instruments. Significant increases in the sensitivity of laboratory instrumentation have made it possible to detect compounds in the parts-per-trillion range, whereas the norm used to be parts per thousand and parts per million.

On average, ADEM laboratory services perform approximately 52,000 analytical procedures on almost 8,000 samples each year.

INTERNAL SUPPORT ACTIVITIES

Field Offices

Field Operations is the largest division in terms of the number of personnel. This reflects both the diversity of its responsibilities and the extensive support it provides to other Divisions. The Department has field offices in Decatur, Birmingham, Montgomery [which includes our central lab and is located in the building next door to the Environmental Building] and in Mobile. The Coastal Program Office is in temporary commercial office rental space about 9 miles from the Mobile field office.

The field offices each have laboratory facilities with varying capabilities depending on local program needs, sample hold time requirements, availability of services from sister field offices, equipment redundancy, and similar considerations.

The Department has recently been focused on upgrading the outdated Field Offices in Birmingham and Mobile.

In Birmingham, the Phase 1 upgrade of office area for 25 personnel was completed in July 2018. The Phase 2 upgrade of outdated laboratory facilities was completed in 2020.

In Mobile, office space is under construction to create combined housing for the 33 personnel in our Field Office and the Coastal Program. The four-acre property for the consolidated operations near the geographic center of our current as well as the projected future workload.

ADEM
Alabama Department of Environmental Management


Legend
ADEM Field Offices
Decatur Field Office
Birmingham Field Office
Montgomery Field Office
Mobile Coastal Field Office
Mobile Central Field Office
Wheeler Lake
Weiss Lake
Rome
Gadsden
Tupelo
Birmingham-Shuttlesworth International Airport
Hoover
Tuscaloosa
Martin Lake
West Point Lake
Auburn
Phenix City
ALABAMA
Montgomery
Montgomery Regional Airport (Dannelly Field)
Walter F George Reservoir
Pensacola International Airport
Pensacola
Lake Seminole
0 20 40 80 Miles
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed June, 2022.

INITIATIVES

Mobile Field Office Construction

ADEM is currently implementing its efforts in the coastal area through its Coastal Office and its Mobile Field Office that are physically located in two separate and substandard facilities.

The new ADEM Coastal Office will contain approximately 12,000 square feet of office space along with over 3,000 square feet of laboratory space. The construction of this new, state-of-the-art facility will provide a solid foundation for the Department to efficiently and effectively fulfill its statutory mandate of protecting Alabama's air/land/water resources well into the future.

Funding for the project was provided by the Alabama Gulf Coast Recovery Council ($7.9 M), which is overseeing the distribution of fines that BP has paid due to the Deepwater Horizon oil spill, along with the Alabama Legislature ($3.0 M). Construction is scheduled to be complete in 2023.

Construction

Conceptual

INITIATIVES

Deepwater Horizon

Spill of National Significance

ADEM staff provided more than 30 work years as state lead for the largest spill in U.S. history, known as Deepwater Horizon.

Twelve years after the initial incident on April 20, 2010, Field Operations Division continues supporting local governments and other state trustees with a wide-range of activities, including monitoring and recovery of Mississippi Canyon Block 252 (MC252) tar balls (Deepwater Horizon) from Alabama Gulf-fronting beaches. These efforts were initiated early on under the "Active" response phase, continued through the transition to the "Middle R" response phase, and finally into the "Little R" response phase (which officially began in April 2015). Little R is known as Legacy Response. All monitoring/recovery activities during this Legacy response are the responsibility of the state, local governments, or the general public. In order to initiate a response, an observation of oil must be reported to the National Response Center.

In order to obtain an estimate of the overall, ongoing re-oiling of Alabama's beaches, ADEM conducted an extensive beach survey in February 2014. The 2014 Beach Survey focused primarily on the Gulf-fronting beach segments in Baldwin County, exclusive of the Bon Secour National Wildlife Refuge. Since the initial survey of February 2014, surveys have been conducted annually in an effort to identify and document any re-oiling of these beach segments. The results of the survey are provided to the local governments and the U.S. Coast Guard (USCG).

Deepwater Horizon Tarballs

INITIATIVES

Fish Tissue Sampling
Brushy Creek

Fish Tissue Sampling

ADEM and its predecessor, the Alabama Water Improvement Commission (AWIC), have collected fish for analysis of contaminant levels since 1970. For the 20 years that followed, fish collections focused on areas of known or suspected contamination. In 1991, ADEM expanded its Fish Tissue Monitoring Program (FTMP) to provide a statewide screening of bioaccumulative contaminants in fish tissue.

The expanded program was designed to provide the ADPH with the data needed for determination of potential risk to those who consume fish from Alabama waters and to issue/modify fish consumption advisories within the state. The expanded program historically exists as a cooperative effort between ADEM, the ADPH, the ADCNR and the TVA. In 1997, the FTMP was incorporated into the ADEM Watershed Management Approach.

In June 2006, the ADPH adopted the EPA guidance level of 0.33 microgram per gram (µg/g) mercury in fish for issuance of public consumption advisories, replacing the FDA guidance level of 1.0 µg/g previously used.

From 1970 – 2021, 19,638 fish have been collected for screening for bioaccumulative contaminants in fish tissue.

Lake Martin

DIVISION

Permits and Services

Main Office
Montgomery

Overview

The Permits and Services Division administers numerous environmental oversight programs and departmental support functions. Programmatic activities include state revolving fund loans, non-point source pollution program management, certification of various environmental facility operators, and others.

Departmental support activities include computer technological service and support, communications, fiscal affairs, physical facilities, and external affairs programs.

PROGRAMS

State Revolving Fund

Clean Water State Revolving Fund

Drinking Water State Revolving Fund

The State Revolving Fund (SRF) program is divided into two categories. The Clean Water SRF was established in 1988 and closed its first loan in 1989. Over its history, more than $1.5 billion of loans to public bodies have provided low-cost financing for wastewater infrastructure improvements.

Likewise, the Drinking Water State Revolving Fund closed its first loan in 1998. Since that time, more than $735 million in improvements to public drinking water systems have been financed by the program.

In 2010, the Alabama Environmental Management Commission (EMC) adopted changes to ADEM's SRF program rules to establish a state-of-the-art project ranking system, which also facilitated SRF loans to address nonpoint pollution issues. The first loan to address the impacts of nonpoint source (NPS) pollution was subsequently closed in 2011.

In addition to assisting local communities via financing important infrastructure projects, the fees generated by the Clean Water SRF have provided more than $82 million to support the ADEM's water permitting programs.

Together, these SRF programs have funded projects in all 67 of Alabama's counties, ranging in cost from $85,000 to $59 million, and have enhanced the treatment of wastewater and the ability to provide Alabama residents with clean, safe drinking water.

PROGRAMS

Joe's Branch, Baldwin County

Nonpoint Source Management Program

While the NPS Management Program includes partners and stakeholders throughout Alabama. ADEM manages this program and the implementation of the CWA section 319 grant provided by U.S. Environmental Protection Agency (EPA). The goal of the voluntary NPS Management Program is to protect water quality from the impacts of NPS pollution and to restore water quality in watersheds where nonpoint source pollution impacts have already occurred. Since 1998, ADEM has utilized more than $86 million in funding to implement a statewide NPS pollution management plan and to implement on-the-ground best management practices (BMPs) to improve water quality.

Ten water quality restoration success stories since 2006.

The NPS Management Program, through its voluntary, non-regulatory approach, has supported the implementation of various BMPs. These BMPs have addressed the impacts of nonpoint source pollution associated with agricultural processes, forestry activities, urban development, hydromodification, septic tanks, and mining operations. In addition, program efforts have supported education/outreach efforts, monitoring and assessment efforts, as well as statewide watershed coordinator efforts. The implementation of these key program activities has resulted in nitrogen, sediment, and phosphorous pollutant load reductions.

Another key aspect of the NPS Management Program is the development of small-scale watershed management plans that address the nine key elements that are outlined in the Section 319 grant guidelines. These watershed management plans give local elected officials, citizens, environmental groups, and other stakeholders the opportunity to have an active role in protecting/restoring water quality at the local level.

Bankhead National Forest
Double Springs

PROGRAMS

Environmental Operator Certifications

Water and Wastewater Operator Certification Program

The ADEM Water and Wastewater Operator Certification Program was developed to ensure the safe, efficient, and proper operation of public drinking water systems and public wastewater treatment systems. The certification process is an important step in protecting Alabama's public water supplies for potable uses and in protecting the water quality of Alabama's rivers, lakes, and streams.

On the potable water side, ADEM certifies both water treatment plant operators and water distribution system operators. On the public wastewater side, ADEM certifies both wastewater treatment plant operators and wastewater collection system operators. The program mandates that process control decisions be made solely by an ADEM certified operator. Minimum onsite staffing requirements are also specified in the regulations. ADEM inspects facilities to confirm that a current certified operator of record is on duty and available to make process control decisions.

ADEM's Operator Certification Program has made outstanding recent contributions toward establishing or advancing the certification of environmental professionals. In 2022, ADEM's Operator Certification Program received the Annual Certification Program Award from Water Professionals International. ADEM continues to optimize, automate, and improve the field of professional water and wastewater certification.

Presently, there are about 3,500 certified water and wastewater operators in Alabama.

Landfill Operator Certification

ADEM also certifies the operators of municipal landfills and construction and demolition landfills. The requirement to certify landfill operators was adopted in November 2009, and the certification process began implementation in 2010. There have been 436 landfill operators certified in Alabama. Each landfill in the state must employ certified operators to oversee all landfill activities.

Water Well Standards Program

The Alabama Water Wells Standards Act was passed in 1971 under the direction of the Alabama Water Well Standards Board. ADEM took over responsibility of the Water Well Standards Program in 1982. Over the past 40 years, the Water Well Standards Program has helped protect the state's groundwater resources by requiring well construction standards and by the licensing of water well drillers in Alabama. Currently, there are 120 licensed well drillers in Alabama.

ADEM maintains a database of water wells drilled by licensed drillers throughout the state. The database contains well driller records for more than 31,000 water wells. ADEM inspects well installations and initiates enforcement action accordingly when warranted.

Water Professionals International named ADEM's water and wastewater Operator Certification Program the "**Program of the Year**" in 2022.

PROGRAMS

Compliance Assistance

The Permits and Services Division assists industries and municipalities with permit compliance matters. The division most often provides technical assistance to industries and municipalities of limited financial means. However, the Compliance Assistance Program also helps small businesses or large businesses that are considering new start-ups or that are bringing their operations to Alabama.

The division continues to help industries and municipalities navigate regulatory matters, implement innovative solutions to reduce energy consumption, find new ways to recycle process water and reduce waste, and reduce the level of nutrients discharged to Alabama waterways. The division conducts facility assessments, including energy audits, helping to troubleshoot water and wastewater treatment plant operations. (Note that this degree of technical and regulatory assistance is provided on a limited basis.)

As examples, ADEM has provided recommendations to help regulated entities achieve permit compliance outside the bounds of typical enforcement. ADEM's actions in this arena can expedite resolution without the need for costly legal action. In addition, ADEM has provided recommendations that help municipalities and industries achieve notable energy savings. Implementing ADEM's energy saving recommendations has saved some utilities more than $100,000 per year in operating costs.

Clean Vessel Act and Boating Infrastructure

ADEM provides grant funds for the construction of marina pumpout stations and waste reception facilities for recreational boaters. These pumpout stations and waste reception facilities provide boaters with an easy, convenient method of disposing of their wastewater in lieu of discharging it, untreated, into Alabama's waterways.

Since 1993, ADEM has provided more than $600,000 to marinas to install boat sewage pumpout stations.

ADEM also provides grant funds for the construction of docking facilities for transient vessels that are 26 feet or greater in length and non-trailerable. ADEM has awarded more than $3 million to marinas for the construction of transient boat docking facilities.

Alred Marina

The Clean Vessel Act (CVA) program has provided more than $600,000 in grant funds for marinas to install pumpout stations to protect water quality in Alabama lakes and rivers.

INTERNAL SUPPORT ACTIVITIES

Significant enhancements in computer technology support electronic data submissions, electronic permit application, and instant access to more than 3 million scanned documents and 250 terabytes of data.

Information Systems

Information Systems staff have grown from two members at the inception of the Department to approximately 35 staff members in 2022. This growth reflects an increase in the scope and complexity of ADEM's regulatory responsibility.

Early in its history, automated data processing revolved around payroll processing and personnel management, tasks that still remain priorities. ADEM's early adoption in 1983 of a WANG mainframe computer occurred at a time when personal computers in a business/ governmental environment hardly existed. By the late 1980s, ADEM was using electronic data imaging and personal computers during the normal course of business. However, much of the work that the Department performed utilized mainframe computers at the EPA.

ADEM began using a website in 1996 to provide basic information to permit holders, the public, and other stakeholders. By 1999, ADEM implemented electronic document imaging enterprise-wide. Starting in 2005, all documents were filed electronically into the FileNet system. Today, approximately 3 million electronic documents are available, free-of-charge, via the eFile system on the ADEM website.

The advance of computing technology has also produced electronic inspection forms, web-based compliance reporting, web-based permit applications and a website that provides permit application forms in an electronic format. Since 2003, ADEM has garnered $4.1 million in competitive Exchange Network federal grants that have been used to fund many of these new systems. Additional advancements are anticipated that will increase efficiency, accuracy, and transparency while controlling costs even as environmental regulations change and expand.

INTERNAL SUPPORT ACTIVITIES

ADEM Motor Pool
Montgomery

Facilities Management

Prior to the creation of ADEM in 1982, the wide range of environmental (air/land/water) programs were housed in different buildings throughout the city of Montgomery. In 1984, the Department rented a building at 1751 Congressman Dickinson Drive that became the first ADEM central office building. The central functions remained in this building until a new central office building was constructed in 1999.

The new facility, known as the Environmental Building, is located at 1400 Coliseum Boulevard in Montgomery and houses the employees of the Air Division, Land Division, Water Division, Permits & Services Division, Human Resources, and Office of General Counsel. The 120,000-square-foot facility is functional, accessible, and at the time of construction was considered to be highly energy efficient.

ADEM's original laboratory was also located in Montgomery from 1982 until 2006, when a new laboratory/office building was constructed on the same campus as the Environmental Building.

ADEM continues to improve energy use. Upgrades to light emitting diode (LED) lighting products increased lighting efficiency up to 90% compared to incandescent light bulbs.

In addition, ADEM's fleet of 175 motor vehicles and 21 vessels consistently exceeds the U.S. Department of Energy's standard compliance rate for the EPAct State and Alternative Fuel Provider Fleet program using credible non-alternative fuel vehicles, such as hybrids.

Beginning in 2018, ADEM began using an electronic reservation system known has the Motor Pool Administration System to optimize efficiency of the motor fleet rotation and enhance tracking of fleet maintenance needs.

INTERNAL SUPPORT ACTIVITIES

Fiscal Office

ADEM has experienced significant increases in the number of regulatory programs it administers and its overall responsibilities over the past 40 years. ADEM originally implemented only 10 environmental programs, but now is responsible for implementing more than 40 different environmental programs. These programs initially focused on large industries such as paper mills, power plants, and chemical manufacturers. However, over the years, those regulatory efforts have been expanded to include small businesses such as dry cleaners, gas stations, construction sites, and pesticide applicators. Consequently, staff levels and budgets have increased in an effort to keep pace with these rising demands.

ADEM originally employed a staff of around 200 and has expanded over the years to reach almost 625 at times. ADEM currently employs just under 600 full-time staff members and has an operating budget of $65 million. This budget compares to an original operating budget of around $8 million in 1982.

The operating budget is supported by three funding sources: federal funds, state general funds, and regulated industry generated funds. In 1982, federal funds provided 51% of the budget, state general funds provided 28%, and other generated funds provided 21%. In 2022, those percentages have changed significantly, with federal funds providing 40% of the budget, state general funds providing 6%, and other generated funds providing 54%.

The staff within ADEM continues to focus on identifying areas to enhance efficiency and effectiveness in the implementation of environmental programs. Improvements in technology, partnerships with other agencies, and leveraging resources with outside stakeholders have all allowed ADEM to evolve over the past 40 years and continue to be an effective steward of its provided resources.

INTERNAL SUPPORT ACTIVITIES

External Affairs

The Office of External Affairs provides oversight of all aspects of internal and external communications. External Affairs staff maintain relationships with legislators, legislative staff, other government agencies, professional associations, environmental organizations, citizens groups, and the media, providing information and education that improve awareness of environmental programs. Targeted messaging and proactive external communication are used to provide stakeholders with crucial education on emerging environmental issues.

External Affairs has developed and utilizes external communications tools that include website information, news releases, e-newsletters, reports, brochures, and other electronic and printed materials (including a Citizen's Guide to Public Participation, eFile, What's Happening in Your County, and more).

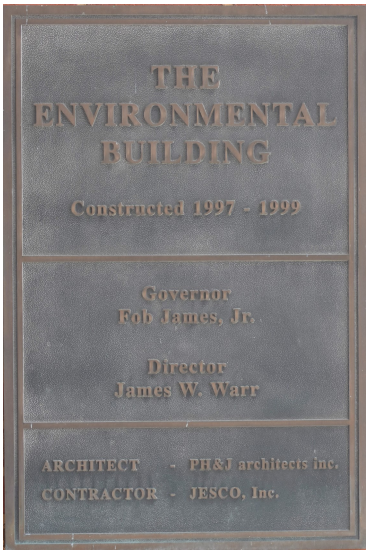
External Affairs continues to provide additional opportunities for the public to learn more about ADEM and its current activities, such as providing livestream videos of onsite public hearings and Alabama Environmental Management Commission meetings, online postings of recorded public hearings held off site, and updates to the Community Engagement book. The book contains ADEM's efforts in broader, community outreach activities across the state, including to disadvantaged communities. In addition, External Affairs partners with various organizations and stakeholders to host educational workshops for the public on a variety of website tools, while creating videos on how to use them.

Health Service Inc., Back to School Montgomery

INITIATIVES

First Dedicated Main Office

Prior to the creation of ADEM in 1982, the wide range of environmental (air/land/water) programs were housed in different buildings throughout the city of Montgomery. In 1984, the Department rented a building at 1751 Congressman Dickinson Drive that became the first ADEM central office building. The central functions remained in this building until a new central office building was constructed in 1999.



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The new Central Laboratory was completed in 2006 adjacent to the Environmental Building. It houses offices for the Field Operations Division, storage/maintenance space for field equipment, and numerous environmental laboratories. The ability of all the Montgomery programs to be located in close proximity allows for more cooperation and collaboration between groups, and more efficiency for the Department and the State of Alabama.

Alabama Environmental Permitting and Compliance System

Recognizing the need to evolve and continue to move ADEM's programs toward electronic systems to keep up with evolving technology, several programs were integrated into the Alabama Environmental Permitting and Compliance System (AEPACS) in 2020.

AEPACS is an electronic system that allows facilities to apply for and maintain permits, as well as submit other required applications, registrations, and certifications. In addition, the system allows facilities to submit required compliance reports or other information to the Department. Land programs currently utilizing AEPACS include the Scrap Tire program, Recycling program, Unauthorized Dumps and Scrap Tire sites, along with the underground storage tank (UST) Compliance and Corrective Action programs. The Stage 1 Vapor Recovery program within Air Division utilize this system. All permitting and certification programs in Air Division are scheduled to utilize AEPACS. In November 2021, ADEM completed its transition to utilizing AEPACS for electronic permitting and compliance reporting for NPDES and SID permits within Water Division.

This Department wide effort will be referred to in other Divisions.

INITIATIVES

American Rescue Plan Act and Bipartisan Infrastructure Law

In 2021, the U.S. Congress passed two significant pieces of legislation that directly impact Alabama's drinking water and wastewater infrastructure. The American Rescue Plan Act (ARPA), passed in March 2021, provided Coronavirus fiscal recovery funds to state, local, territorial, and tribal governments.

The Bipartisan Infrastructure Investment and Jobs Act, also known as the Bipartisan Infrastructure Law (BIL), was passed in November 2021. Together, these laws provide unprecedented funding to state, local, and tribal governments for various infrastructure improvements, including public drinking water and wastewater treatment systems.

Alabama Act 2022-1 was signed by Governor Kay Ivey in January 2022, approving the spending of $225 million of the state's ARPA funding to support improvements at public water and sewer systems with a special focus on systems with the most critical infrastructure needs.

In addition, ARPA funding was specifically set aside for public water and sewer infrastructure improvements within Black Belt communities. BIL financing will be provided over a five-year period, beginning in fiscal year 2022. The Bipartisan Infrastructure Act (BIL) provided more than $750 million over a five-year period for improvements to Alabama drinking water and wastewater systems

Together, BIL and ARPA will support and assist in addressing a significant portion of Alabama's aging drinking water and wastewater infrastructure needs.

ADEM created the Alabama Water Projects website (alabamawaterprojects.com) to provide information regarding the distribution of funds.

INITIATIVES

Statewide Anti-Littering Campaign

In 2020, ADEM kicked off the Keep Our Waters Clean campaign by installing educational watershed signs on interstates, anti-litter signs throughout the state, and wildlife sculptures at 7 Alabama Welcome Centers and the Governor Guy Hunt Rest Area, in efforts to educate the public on the importance of trash-free waters. In 2022, ADEM External Affairs oversaw the installation of the first sculpture – a loggerhead sea turtle – at the Grand Bay Welcome Center along with information about watersheds and littering. The campaign was funded through a $500,000 competitive grant from the EPA.

In 2021, ADEM received $1 million for a Coastal Area Litter Traps project supported by funds from the Gulf of Mexico Energy Security Act of 2006 (GOMESA). This funding will enable ADEM, working in partnership with local governments and community groups, to expand the deployment of permanent litter traps, which have proved effective in capturing litter that can harm wildlife and the environment so critical to the area.

In addition, ADEM has distributed more than 1,500 signs to discourage littering and dumping to municipalities across the state.

Grand Bay Welcome Center
Mobile County


Welcome to
Sweet Home
Alabama
Governor Kay Ivey
REST AREA
ALABAMA
WELCOME CENTER
1 MILE
Tallapoosa River
Watershed
Help Keep Our Waters Clean

Noteworthy Recognitions

For its efforts to develop and implement a Risk-Based Corrective Action (RBCA) process and for fostering public-private participation in their regulatory reforms – U.S. EPA, The Office of Underground Storage Tanks (1998)

Special Recognition in Appreciation of Effective Partnership Activities, Addressing Natural Resource Protection in the Southeast – U.S. EPA Southeast, Region IV (2000)

Certificate of Commendation in recognition of achieving a perfect Property Inventory Audit – The State Auditor's Office of Alabama (2004)

In Grateful Appreciation of Efforts and Participation in the State Blood Drives – LifeSouth Community Blood Centers (2005)

In Grateful Appreciation of Hurricane Katrina Response – Mississippi Department of Environmental Quality (2005)

Certificate of Appreciation in Recognition of Outstanding Efforts Implementing the American Recovery and Reinvestment Act through the Clean Water and Drinking Water State Revolving Funds – U.S. EPA Water Protection Division (2011)

Resolution recognizing the Alabama Department of Environmental Management for having two water systems win the 2009 Region IV Safe Drinking Water Excellence Awards from the United States Environmental Protection Agency – Senate of Alabama (2011)

Certificate of Recognition: 2011 State Records Commission Records Management – Governor Robert Bentley, State of Alabama (2012)

Water Quality Branch of Alabama Department of Environmental Management Excellence in Public Participation Award from the United States Environmental Protection Agency – Region 4 (2012)

Co-sponsor of the 2012 Southeast Environmental Justice Conference: Promoting Environmental Justice Through Effective Education, Collaboration, and Mobilization" – U.S. EPA Region IV (2012)

Taxonomic Certifications

~ Excellence for Identification of Eastern Ephemeroptera, Plecoptera, & Trichoptera ~

Society for Freshwater Science Taxonomic Certification Program

Certified Professionals Engineers

Alabama Board of Licensure for Professional Engineers and Land Surveyors

Certified Professionals in Erosion and Sediment Control

EnviroCert International, Inc.

Certified Fisheries Professional

American Fisheries Society Professional Certification Program

Licensed Professional Geologists

Alabama Board of Licensure for Professional Geologists

Certified Public Managers

National Certified Public Manager Consortium

Noteworthy Awards

'Outstanding Commitment to the Success of Minority Owned Businesses' – Montgomery Business Development Corporation (1989)

"Corporate Sponsor Award" – Alabama People Against a Littered State/ Keep Alabama Beautiful (1994)

"Cornerstone Award" in Recognition of Outstanding Leadership and Support – Legacy, Inc. Partners in Environmental Education (1995)

"Cornerstone Award" in Recognition of Effort and Commitment to Helping Create Environmentally Responsible Citizens Through Education – Legacy, Inc. Partners in Environmental Education (1999)

"Safe Drinking Water Act 25th Anniversary Award" – U.S. EPA Region IV (1999)

"Environmental Merit Award" Waste Management Team – U.S.EPA Southeast, Region IV (2000)

"First Place Large Agencies" – U.S. Savings Bond Campaign (2001)

"Award of Excellence" – Aegis (2002)

"International Green Apple Awards for Environmental Best Practice" USA Bronze Winner – The Green Organization (2004)

"International Green Apple Awards for Environmental Best Practice" North America: Gold Winner – The Green Organization (2006)

"Recognition of [Their] Continued Support as a Partner in Conservation" – Weeks Bay Reserve (2006)

"Blood Services Alabama and Central Gulf Coast Region, 2007, Outstanding Business Sponsor" – American Red Cross (2008)

"Gold Award" - Alabama State Employee Combined Charitable Campaign (2010)

"Conservation Development Award" – Cahaba River Society (2011)

"Exchange Network Progress Award" – U.S. EPA Office of Environmental Information (2011)

"Exchange Network Leadership Award" – U.S. EPA Office of Environmental Information (2012)

"ECOS State Program Innovation Award" Alabama's Electronic Inspections – Environmental Council of the States (2017)

"Certification Program Award" Alabama Water & Wastewater Operator Certification Program – Association of Boards of Certification (2022)

2022

McAnespie Award

~ Outstanding contributions to the Water and Wastewater certification industry ~

Water Professionals International (WPI)

2020

Fisheries Conservationist of the Year

Alabama Wildlife Federation

2013

Water Conservationist of the Year

Alabama Wildlife Federation

Acronyms

ACAMP	Alabama Coastal Area Management Program
ACM	Asbestos Containing Material
ADCNR	Alabama Department of Conservation and Natural Resources
ADECA	Alabama Department of Economic and Community Affairs
ADPH	Alabama Department of Public Health
AEERS	Air Electronic Emissions Reporting System
AEPACS	Alabama Environmental Permitting and Compliance System
AFO	Animal Feeding Operation
AHSCF	Alabama Hazardous Substance Cleanup Fund
ALSDE	Alabama State Department of Education
ANCDF	Anniston Chemical Demilitarization Facility
ARPA	American Rescue Plan Act
ARWA	Alabama Rural Water Association
AWIC	Alabama Water Improvement Commission
AWOP	Alabama Area-Wide Optimization Program
AWPCA	Alabama Water Pollution Control Act
BEACH	Beaches Environmental Assessment and Coastal Health Act
BIL	Bipartisan Infrastructure Investment and Jobs Act
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CAAA	Clean Air Act Amendments
CAFO	Concentrated Animal Feeding Operation
CCR	Coal Combustion Residuals
CEMS	Continuous Emissions Monitoring Systems
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CVA	Clean Vessel Act
CWA	Clean Water Act
CWM	Chemical warfare material
CWMP	Coastal Waters Monitoring Program
CZMA	Coastal Zone Management Act
DERTFB	Dry-cleaning Environmental Response Trust Fund Board
DERTF	Dry-cleaning Environmental Response Trust Fund
DHR	Alabama Department of Human Resources
DMRs	Discharge Monitoring Reports
DOD	U.S. Department of Defense
DSMOA	Department of Defense and State Memorandum of Agreement
EMC	Environmental Management Commission
eNOI	Electronic Notice of Intent
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act

FTMP	Fish Tissue Monitoring Program
FUDS	Formerly Used Defense Sites
GIS	Geographical Information Systems
GOMESA	Gulf of Mexico Energy Security Act
ICIS	Integrated Compliance Information System
ICO	Interim Consent Order
LED	Light emitting diode
MC252	Mississippi Canyon Block 252
MCL	Maximum Contaminant Levels
MDA	McClellan Development Authority
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_X	Oxides of Nitrogen
NPDES	National Pollutant Discharge and Elimination System
NPL	National Priorities List
NPS	Nonpoint Source
NRCS	Natural Resources Conservation Service
PCB	Polychlorinated Biphenyls
PFAS	Per- and polyfluoroalkyl substances
$PM_{2.5}$	Particulate Matter 2.5 micrometers
PSD	Prevention of Significant Deterioration
RBCA	Risk Based Corrective Action
RCRA	Resource Conservation and Recovery Act
SDWA	Safe Drinking Water Act
SID	State Indirect Discharge
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SRC	School Recycling Challenge
SRF	State Revolving Fund
SSO	Sanitary Sewer Overflow
SSORPs	Sanitary Sewer Overflow Response Plans
TMDL	Total Maximum Daily Load
Trail	Selma-to-Montgomery Historic Voting Rights Trail
TSCA	Toxic Substances Control Act
TVA	Tennessee Valley Authority
UAD	Unauthorized Dump Sites
UCMR3	Unregulated Contaminant Monitoring Rule 3
UIC	Underground Injection Control
USCG	U.S. Coast Guard
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WLA	Waste Load Allocations

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This publication has been produced using federal funds provided to the Department through EPA grants and cooperative agreements.