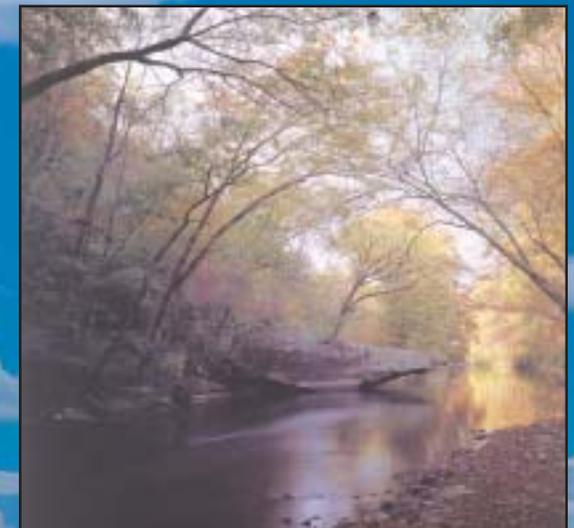


**ALABAMA DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT**

**ENVIRONMENTAL
SUMMARY
2002**

Table of Contents

Letter from the Director	1
Environmental Management Commission	2
Departmental Structure	3
Resources	4
Air Management	5-8
Water Management	9-12
Monitoring	13-16
Land Management	17-20
Office of Education and Outreach	21-24
Significant Events	25



Cover: Shoal Creek

Letter From The Director

I am pleased to present to the citizens of Alabama the Alabama Department of Environmental Management's Environmental Summary for the year 2002. This report documents the progress that has been made in the protection and revitalization of Alabama's air, water and land resources and identifies some challenges that lie ahead.

Brownfield initiatives are important to the state and the Department secured a \$1 million grant from the Environmental Protection Agency to capitalize a Brownfields Cleanup Revolving Loan Fund program. The necessary legislative authority will be sought in the upcoming legislative session to implement the program. The Brownfields Cleanup Revolving Loan Fund will provide low interest loans to assist in the environmental assessment and economic redevelopment of abandoned industrial properties, thereby reducing the development pressure on greenfield, or natural areas.

The Department also moved to address funding shortfalls and increased regulatory responsibilities. The Legislature reversed the trend of budget cuts and provided a \$500,000 increase in the Department's operational general fund appropriation for FY2003. Additionally, the Department implemented a new fee schedule which will allow the Department to conduct new programs and expand inspection activities associated with existing ones.

One of the new programs the Department will be implementing in the months ahead is the federally mandated Phase II stormwater program. The new Phase II program addresses construction activities greater than one acre and will significantly increase the number of facilities the Department regulates.

Also, Alabama will soon be realizing the benefits of the Department's plan to further reduce the emissions of nitrogen oxides from large industrial sources. The requirements outlined in this plan are currently being implemented and will result in a significant reduction in the emission of nitrogen oxides, a precursor to the formation of ground level ozone.

In addition to the accomplishments outlined in this report, the Department also faces challenges in the years ahead. In particular, attempts to utilize the environmental permitting process as a "zoning instrument" is an issue that must be confronted. Alabama has large, rural areas that do not have a local mechanism to address land use issues. The ability to plan for and accommodate growth in the unincorporated areas of the state simply must be addressed.

I thank the Governor, the Alabama Legislature, other state/federal agencies and Alabama's citizens for their continued support of this Department. I especially thank the Department's employees for their dedication, commitment and continuous effort to ensure good stewardship of Alabama's air, land and water resources.



Sincerely,

James W. Warr
ADEM Director

Environmental Management Commission

The Alabama Environmental Management Commission (EMC) began the year under new leadership as Dr. William Sanders was elected as the new Commission Chairman. Dr. Sanders' selection followed the resignation of Commissioner Richard Thigpen who had previously served as the Commission's Chairman.

Activities

In addition to the discharge of its other responsibilities, the EMC initiated a rulemaking process to provide for additional opportunities for citizen input at EMC meetings. Beginning with its Rulemaking Subcommittee, proposed rules were drafted, commented upon, and subsequently revised before the full Commission authorized the formal rulemaking process at its December 2002 meeting. The rulemaking process is underway and rules that provide citizens additional input opportunities should be completed in early 2003.

The Commission also sought, and subsequently was provided, legal assistance from the Attorney General's Office. The Assistant Attorney General assigned to the Commission will provide guidance and advice on legal issues. The Commission had previously secured hearing officer assistance from the Attorney General to hear administrative appeals of Department actions.

Commissioner R. D. Hicks

The Commission and the Department were deeply saddened by the untimely death of Commissioner R. D. Hicks. Commissioner Hicks, who served in the "At Large" position, was initially appointed to serve on the Alabama Environmental Management Commission by Governor Jim Folsom in 1994. Prior to his death, he had been re-appointed to serve another six year term by Governor Don Siegelman.

Commissioner Hicks was President of Hicks Enterprises, a homebuilding and earth moving company in Stevenson.

EMC Welcomes New Appointees

A term expiration, a resignation, and a death, resulted in the loss of over 18 years of EMC experience during 2002. Governor Siegelman filled this void by appointing three new members to the Environmental Management Commission.

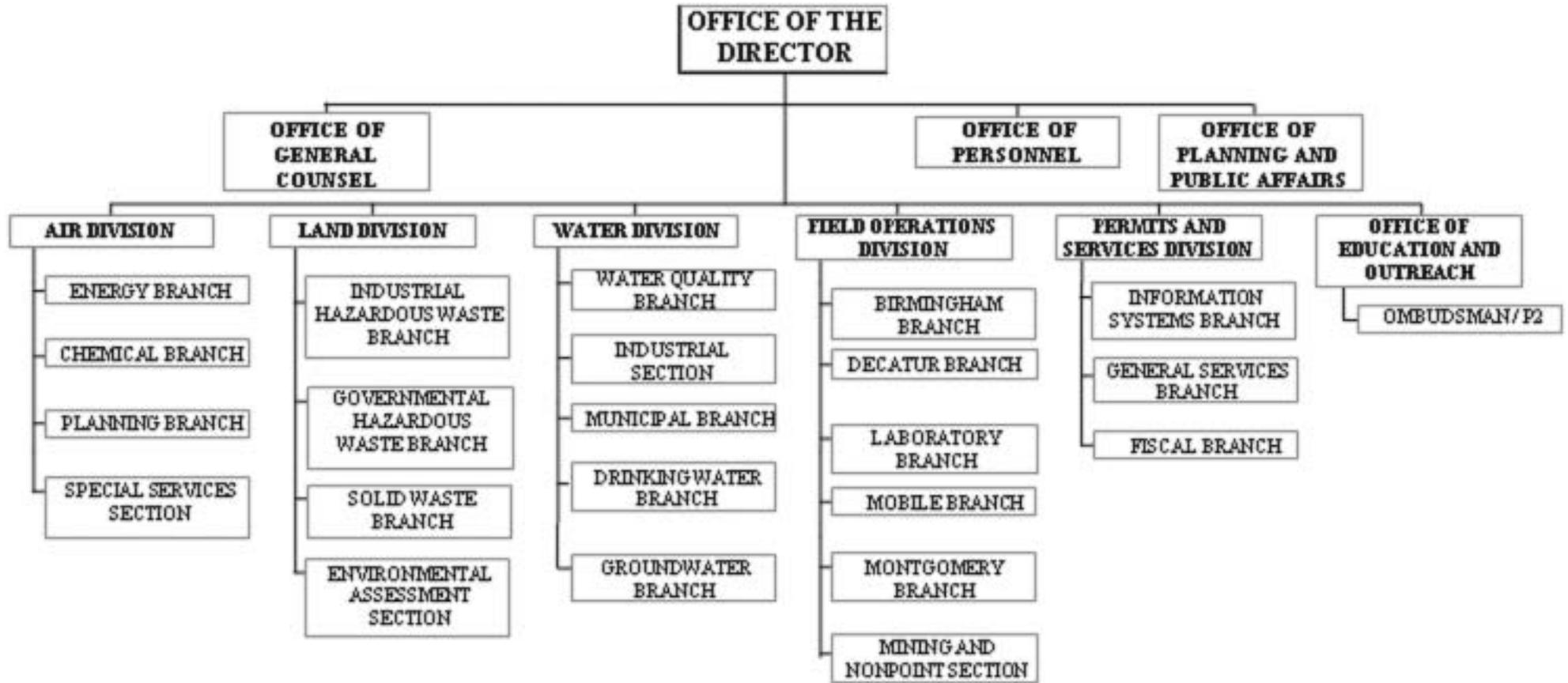
In March 2002, Governor Siegelman appointed Mr. Kenneth Hairston to fill the EMC's attorney position vacated as a result of Dr. Thigpen's resignation. Mr. Hairston currently is a member of the Gorham & Waldrep law firm and his practice areas include litigation, contracts, sports and entertainment, and municipal law.

In December 2002, Governor Siegelman announced that he had selected Mr. Riley Boykin Smith and Mr. Scott Phillips to fill the two remaining vacancies on the EMC. Mr. Smith previously served as the Director of the Alabama Department of Conservation and Natural Resources and will fill the "At Large" position formerly held by Mr. Hicks. Mr. Phillips currently is a vice-president with Malcolm Pirnie, Inc. and will serve in the position requiring certification by the National Groundwater Association (formerly the National Water Well Association). He fills the vacancy created by Mr. Alan Symons' term expiration.

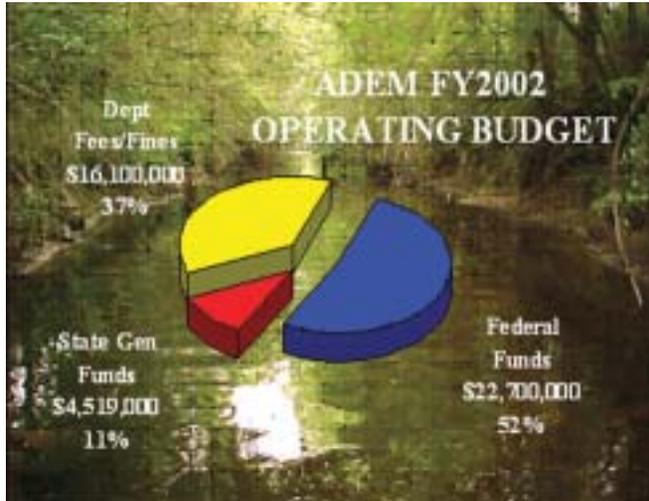
Current EMC Commission Members

<u>Name</u>	<u>Position</u>
William M. Sanders, M.D. , Chair	Physician
Sam Wainwright, P.E., Vice-Chair	Registered Professional Engineer
Kenneth A. Hairston, ESQ.	Attorney
Patrick H. Byington	Biologist/Ecologist
John H. Lester, D.V.M	Veterinarian/Chemist
W. Scott Phillips	NGA
Riley Boykin Smith	At Large

Alabama Department of Environmental Management



ADEM Obtains Funding Increase



August, the EMC approved regulations which increase specific permit application fees and add a new category of permit application fees to address the Phase II stormwater requirements mandated by the Environmental Protection Agency (EPA).

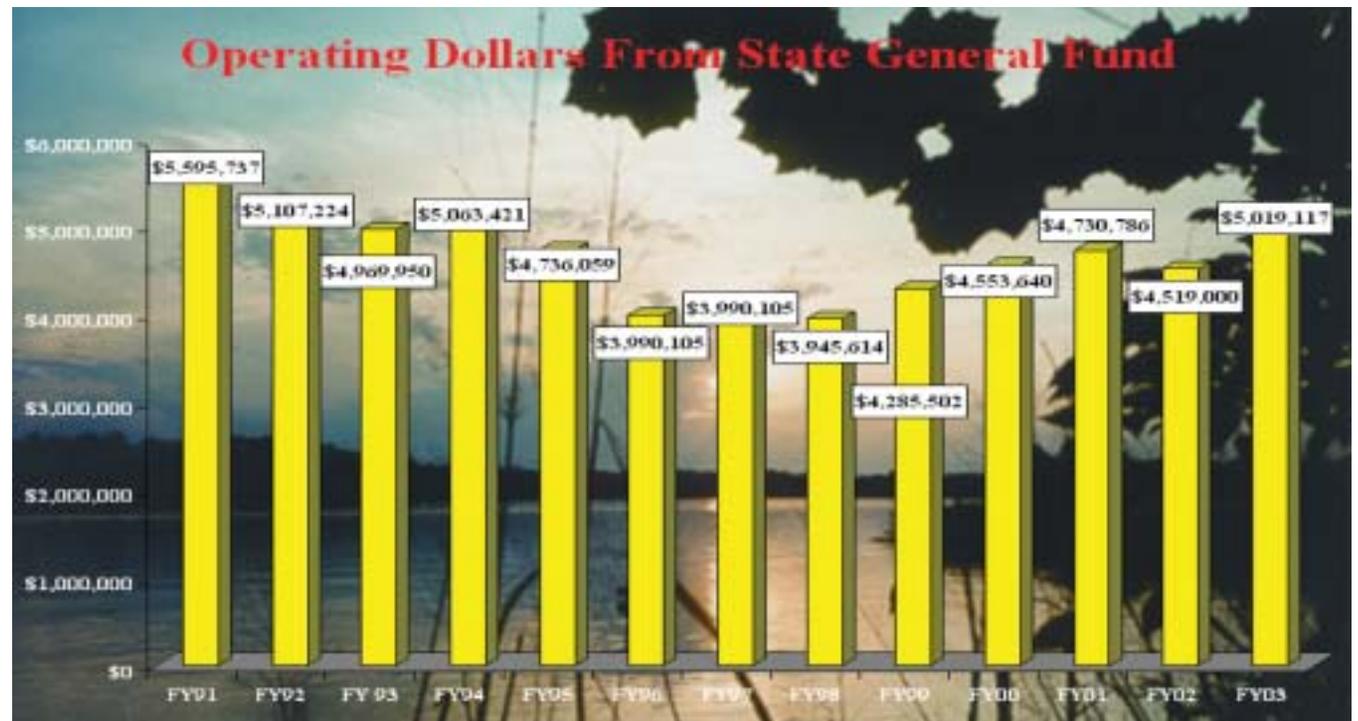
The fee increase will partially cover the costs associated with reviewing permit applications, performing inspections, and documenting compliance issues during the period for which a permit is issued.

The new fee category supports the Department's implementation of the Phase II stormwater requirements. These requirements expand stormwater coverage to small municipalities and construction activities equal to or greater than one acre. The regulated universe will be substantially expanded with the implementation of this effort.

The final area affected by the fee increase involved the Department's scientific review of water quality models that are submitted by a permit applicant. The increased use of these water quality models has required the Department to designate additional resources to perform timely, technical reviews of the information contained in the water quality models.

The Department's general fund operating appropriation from the State Legislature was increased by \$500,000 for fiscal year 2003. The increase will comprise approximately 1% of the Department's total budget, which is expected to exceed \$46 million. Although the Department received an appropriation increase from the state general fund, the Department's FY2003 general fund appropriation has decreased approximately 10% as compared to FY1991 and Alabama continues to rank near the bottom in per capita environmental spending.

The Department also increased existing permit fees and established new permitting fees to address new program responsibilities and provide additional inspection capacity. In



New Air Quality Standards

The National Ambient Air Quality Standards, or “NAAQS,” establish the dividing line between healthy and unhealthy air. EPA sets the NAAQS for six criteria pollutants nationwide including nitrogen dioxide, sulfur dioxide, particulate matter (PM), lead, ozone, and carbon monoxide. New, more stringent standards for ground level ozone (smog) and fine particles (soot) were established in 1997.

The new ozone standard is met when the three-year average of the fourth highest daily maximum 8-hour average is less than or equal to 0.084 parts per million (ppm). EPA strengthened the current primary PM standards by adding a new annual $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and a new 24-hour $PM_{2.5}$ standard of $65 \mu\text{g}/\text{m}^3$. The annual standard is met when the three-year average of the annual arithmetic mean $PM_{2.5}$ concentrations is less than or equal to $15.0 \mu\text{g}/\text{m}^3$. The 24-hour standard is met when the three-year average of the 98th percentile of 24-hour $PM_{2.5}$ concentrations is less than or equal to $65 \mu\text{g}/\text{m}^3$.

Although the new standards were established in 1997, they were subsequently challenged in court. In February 2001, the United States Supreme Court upheld EPA’s authority to revise air quality standards, but declared EPA’s “implementation

policy” for the new ground level ozone and fine particulate matter standards to be unlawful. In March 2002, the United States Court of Appeals for the District of Columbia rejected all remaining challenges to EPA’s 1997 ambient air standards for fine particles and ground level ozone. EPA has conducted several public meetings seeking input on how these standards should be implemented. A final policy is scheduled for release in 2003 and will be established through a formal rulemaking process. The new standards will go into effect when EPA makes formal designations of areas as attainment/nonattainment. Formal designations are expected to take place in 2004 and will be based on the three most current years of air quality data.

The Department has a network in place to monitor both particulates and ground level ozone. The Department continues to analyze data from this monitoring network and place new monitors to efficiently assess air quality. In

fact, several new ozone monitors have been placed in recent years to assess air quality for the new standards. The latest monitor was placed on-line in 2002 in Etowah County.

The maps shown illustrate the attainment status of the monitoring network.

Countries Not Meeting the 8-Hour Ozone Standard 2000 - 2002 Data



3-year Average 1999 - 2001 $PM_{2.5}$



Plan to Achieve Ozone Attainment

EPA has approved the Birmingham State Implementation Plan (SIP) for reducing ground-level ozone. The plan was designed to allow Jefferson and Shelby Counties to comply with the 1-hour ozone standard. The plan requires the use of a cleaner burning gasoline until national standards take effect in 2004. The plan also requires new emission controls on two electric power generating utilities in the Birmingham area. The plan will result in significant nitrogen oxide (NOx) reductions designed to achieve clean air status for Birmingham beginning in 2003.

Controls on electric power generating units began operation in 2002 in advance of the 2003 compliance deadline. Significant NOx reductions are expected to be achieved at electric power generating units in the Birmingham area through 2004 as a result of the additional reductions required through the regional NOx reduction plan for the northern two-thirds of Alabama. This plan is known as the “NOx SIP Call.”

The NOx SIP Call requires large emission reductions from fossil fuel-fired equipment during the “ozone control season,” May 1 through September 30. This includes large electric generating units, large industrial boilers and turbines, stationary internal combustion engines and cement kilns.



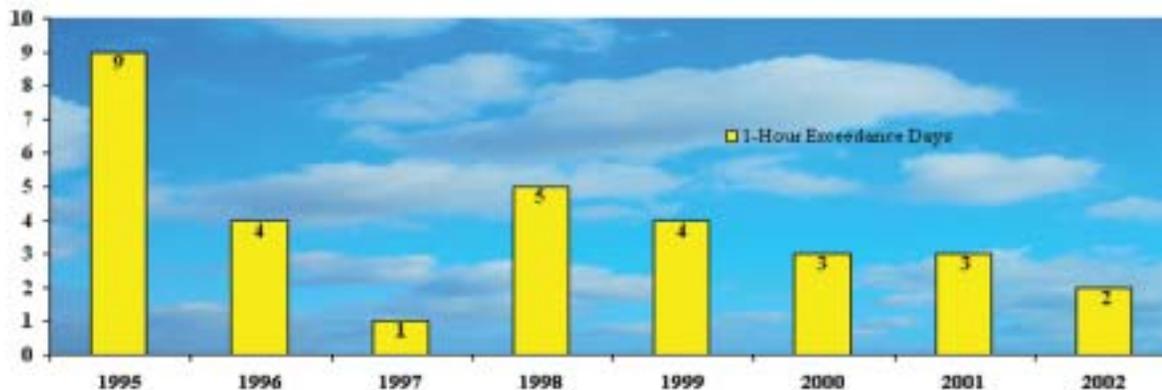
Ozone Forecasting Initiated for City of Huntsville

The Department initiated a program to provide ozone forecasts for the City of Huntsville in 2002. The Department already has ozone forecasting and ozone awareness programs in Birmingham (1996) and Mobile (1999). These programs were developed by local governments, businesses, and industries, in conjunction with the Department, to aid in achieving and maintaining air quality attainment standards for ozone. The purposes of these programs are:

1. To increase public awareness of ground level ozone;
2. To declare Ozone Alerts on days when weather conditions are favorable for ozone concentrations to approach or surpass the air quality standard;
3. To give the public the opportunity to voluntarily reduce emissions of ozone-causing pollutants on Ozone Alert days.

The success of these programs is due to public participation on Ozone Alert days and the Department's ability to predict the days when the ozone level will reach or surpass levels considered unhealthy. Daily ozone forecasts are issued by the Department when ozone formation is most likely: for Mobile between April and October and for Birmingham and Huntsville during May through September. These forecasts are issued Sunday through Friday, no later than 3 p.m. and predict ozone levels for the next day. The Friday forecast consists of a two-day forecast for Saturday and Sunday. All daily ozone forecasts are prepared by the Department's meteorologists and are based on predicted weather conditions, ozone forecast models, and observed ozone trends in the Birmingham, Huntsville, and Mobile areas.

1-Hour Exceedance Days - Birmingham



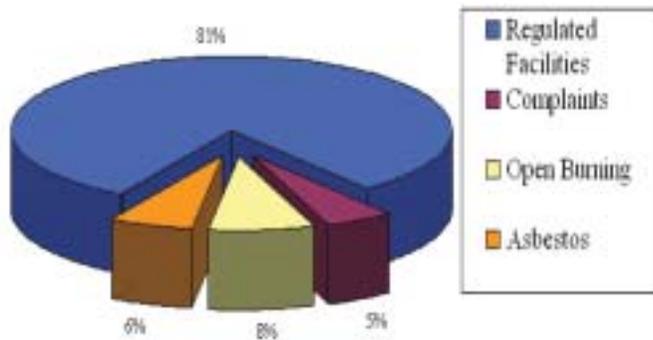
2002 Ozone Forecast Scale

<u>Forecast Color Code</u>	<u>Air Quality</u>	<u>Forecast Message</u>
GREEN	Good	No health impacts are expected when air quality is in this range.
YELLOW	Moderate	Unusually sensitive people should consider limiting prolonged outdoor exertion.
ORANGE	OZONE ALERT	Unhealthy for sensitive groups - Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
RED	OZONE ALERT	Unhealthy - Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
PURPLE	OZONE ALERT	Very unhealthy - Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; and everyone else, especially children, should limit outdoor exertion.

The daily ozone forecast consists of color-coded categories that correspond to different recommended actions for the general public.

DID YOU KNOW.....
 Gas mileage decreases rapidly at speeds above 60 mph. Each 5 mph you drive over 60 mph is like paying an additional \$0.10 per gallon for gas!

FY 2002 AIR COMPLIANCE INSPECTIONS
Total Inspections Conducted = 2,069



Emissions Measurement

Emissions measurement includes those activities that evaluate and/or quantify air emissions from regulated and non-regulated facilities/sources. Some of these activities include the observation and evaluation of emission testing, air toxics monitoring, visible emissions certification, and continuous emissions monitoring system (CEMS) audits. During fiscal year 2002, there were 592 emissions tests conducted within the state and Department personnel evaluated 565 emissions test reports.



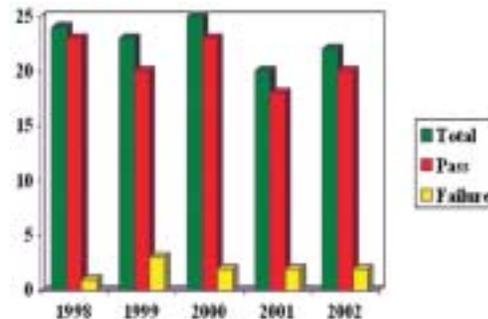
ADEM Staff Performing Emissions Testing

Continuous Emissions Monitoring System Audit Program

The Department has a comprehensive plan for evaluating the certification and recertification of continuous emissions monitoring systems (CEMS). CEMS continuously sample, analyze and provide a permanent record of emissions from a facility. Twenty-two audits involving thirty CEMS were performed by the Department for precision and accuracy, and approximately 99 certifications or recertifications of CEMS were observed. Department personnel also audited 17 CEMS at six acid rain facilities (Electric Generating Plants).

There are two types of CEMS audits performed, gaseous and opacity. Audits on gaseous monitors involve injecting a calibration gas of known value into the monitoring system and comparing the results for accuracy. Audits performed on opacity monitors that read smoke density involve placing a calibrated filter in the opacity monitor and documenting how accurately the monitor determines the true value of the filter.

Total Audits Performed Since Fiscal Year 1998



Visible Emissions Certification Program

The Department conducts a Visible Emissions Certification Program to train individuals to visually read opacity (density) of emissions from stacks at industrial facilities. The procedures for reading plume opacities must follow federal regulations which specify training requirements that state programs must utilize. The Visible Emissions Certification Program consists of two "smoke schools" annually. These schools are conducted in the spring and fall and consist of two sessions per school. The majority of the attendees are regulatory personnel, consultants, and environmental staff from industry.

Each school consists of one day of lecture followed by a written exam, and four days of field training and testing. Field certification is accomplished by using a smoke generator to produce different plumes of smoke with known opacities. When a participant demonstrates that he/she can accurately read smoke plume opacities within 7.5 % accuracy, he/she becomes certified. The lecture certification is valid for three years, and the field certification is valid for six months. During the 2002 fiscal year, 271 individuals were certified in the lecture portion and 816 individuals in the field portion.



Field Certification

Open Burning Ban

The Department continued an open burning ban in seven Alabama counties between May and September to combat the formation of ground level ozone. The ban included the burning of untreated wood, tree trimmings, and brush or plant growth generated by clearing or maintenance of land, and from construction and demolition operations. The seven counties affected by the open burning ban are Madison, Lawrence, Jefferson, Shelby, Montgomery, Mobile, and Baldwin.



Provided there are no local or state ordinances which would restrict the activity, burning the materials listed above may take place during the other seven months of the year in the counties affected by the open burning ban and year-round in other counties. Open burning of other types of materials, such as garbage, shingles, rubber products, paper, treated wood, plastic, salvage materials, insulation, etc. is prohibited at all times across the state.

Air Toxics Monitoring

The Air Toxics Program performs monitoring for hazardous compounds around the perimeter of both regulated and non-regulated facilities. During the past fiscal year, a continuous monitoring site for mercury was established in Southwest Alabama. This site is proposed to operate for five years and is equipped with a Tekran 2537A Mercury Vapor Analyzer, which measures total mercury. Also present is a meteorological station which measures wind speed and direction, temperature, and humidity.



Mercury Monitoring

DID YOU KNOW

Tampering with a vehicle's emission control system is illegal. Any tampering with this system will not only drastically increase emissions, but is likely to have a negative effect on vehicle performance and durability!

Jefferson County Diesel School Bus Retrofit Program

ADEM, in cooperation with the United States Environmental Protection Agency, the Alabama Department of Education, the Birmingham City School System, and the Jefferson County Department of Health, initiated a heavy-duty diesel retrofit program for the school bus fleet in the City of Birmingham. The pilot program utilized the Birmingham City School System's existing school bus fleet and will reduce the air emissions from the fleet operating in the Birmingham portion of the ozone nonattainment area. The pilot program was funded through a \$75,000 federal grant provided to ADEM by EPA's Office of Transportation and Air Quality Voluntary Diesel Retrofit Program, which was established to address pollution from diesel construction equipment and heavy-duty diesel vehicles.

Oxidation catalysts were selected as the retrofit device to be utilized in this pilot program. Oxidation catalysts were selected, after reviewing several other retrofit device options, because they are transferable to other school buses after initial installation and they have a useful life to match that of the bus itself. The installation of the oxidation catalysts is expected to reduce the emissions of particulate matter from each school bus by 20%, the emissions of hydrocarbons by 50%, and the emissions of carbon monoxide by 50%.

Cummins Alabama, Inc. was awarded the bid to install the oxidation catalyst, after bids were requested from over 80 businesses. The installation of all oxidation catalysts was completed in 2002.

Department Continues Development of Nutrient Standards

The EMC previously adopted water quality regulations establishing lake-specific numeric nutrient criteria on four reservoirs within Alabama. Specifically, chlorophyll-a criteria were adopted for Walter F. George Lake and West Point Lake on the Chattahoochee River Basin, R. L. Harris Lake on the Tallapoosa River Basin and Weiss Lake on the Coosa River Basin.

In 2002, the EMC continued this trend and adopted water quality regulations establishing chlorophyll-a criteria on nine additional reservoirs within Alabama including Lake Martin, Yates Lake, and Thurlow Lake on the Tallapoosa River Basin; and Pickwick Lake, Wilson Lake, Wheeler Lake, Lake Guntersville, Cedar Creek, and Little Bear Creek on the Tennessee River Basin.

The Department also continued to pursue the development of nutrient standards for 28 additional Alabama lakes. The Department has identified the lakes and has outlined a schedule to have the nutrient standards in place by 2004. The development of nutrient standards is based on available monitoring data. Sampling plans have been prepared and efforts are underway to gather the necessary data to establish numeric nutrient criteria for these additional lakes.

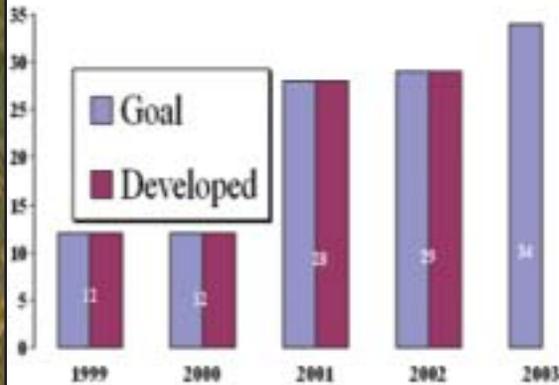


Year	Number of Reservoirs	Major Basin(s)	Name of Reservoirs
2000	4	Chattahoochee, Coosa, Tallapoosa	West Point, W. F. George, Weiss, R. L. Harris
2002	9	Tallapoosa, Tennessee	Martin, Yates, Thurlow, Guntersville, Wheeler, Wilson, Pickwick, Little Bear Creek, Cedar Creek
2003	14	Alabama, Perdido-Escambia, Escatawpa, Black Warrior	Claiborne, Dannelly, Woodruff, Gantt, Point A, Jackson, Big Creek, Lewis Smith, Bankhead, Holt, Oliver, Tuscaloosa, Warrior, Bayview
2004	14	Black Warrior, Cahaba, Chattahoochee, Coosa, Tombigbee, Tennessee	Inland, Purdy, Harding, Neely Henry, Logan Martin, Lay, Mitchell, Jordan, Aliceville, Gainesville, Demopolis, Coffeerville, Bear Creek, Upper Bear Creek
Total = 41			

Department Continues Total Maximum Daily Load Development

The Department continued its commitment to develop total maximum daily loads (TMDLs) for Alabama's rivers, creeks, and streams. TMDLs are developed for individual pollutants and are used to determine the amount of wastewater discharge a water body can receive without having an adverse impact on water quality. The Department has achieved the goals established for developing TMDLs in 1999 (12), 2000 (12), 2001 (28), and 2002 (29). The Department anticipates establishing another 34 TMDLs in 2003.

TMDL Development



New Water Use Classification Upgrades

Water use classifications categorize Alabama's rivers, creeks, lakes, streams, and coastal water bodies based on water quality parameters and uses. The EMC approved new



water use classifications for several stream segments in 2002. This action increased the number of stream segments in Alabama that are designated as suitable for Fish and Wildlife, or better. With the newly approved



Wildlife, or better.

Two segments of the Coosa River were upgraded to the Swimming and Other



Whole Body Water - Contact Sports classification. Segments of Shirtee Creek in Talladega County, Pepperell Branch in Lee County, and Valley Creek in Jefferson County were upgraded to the Fish and Wildlife classification. Also, the upgrade from Agricultural and Industrial Water Supply to Limited Warmwater Fishery was made for segments of Valley Creek and Village Creek in Jefferson County.

water use classifications, Alabama now has over 99 percent of the entire 77,000 miles of state waters classified as suitable for Fish and



Upgrade Of Five Mile Creek Water Use Classification Disapproved

In April of 2002, the Department proposed to upgrade the water use classification of Five Mile Creek in Birmingham from Agricultural and Industrial Water Supply to suitable for Fish and Wildlife. The EMC subsequently approved the water use classification upgrade request. This action would have required industries that have permits to discharge into Five Mile Creek to meet more stringent discharge limits.

However, the Joint Legislative Committee of Administrative Regulations, which must review and approve all regulatory changes made by state agencies, did not approve the water use classification upgrade. Based upon testimony provided by industries located along Five Mile Creek, the Committee determined that Five Mile Creek should remain classified as Agricultural and Industrial Water Supply and remanded the issue back to the EMC.

The EMC subsequently returned the water use classification to Agricultural and Industrial Water Supply. At that time, EPA intervened and proposed the Fish and Wildlife Classification for this section of Five Mile Creek.

Based upon comments submitted to EPA during the public comment period, the Department will again pursue this classification upgrade.

Five Mile Creek Subwatershed

ADEM Receives \$100,000 Grant for USTfields Projects

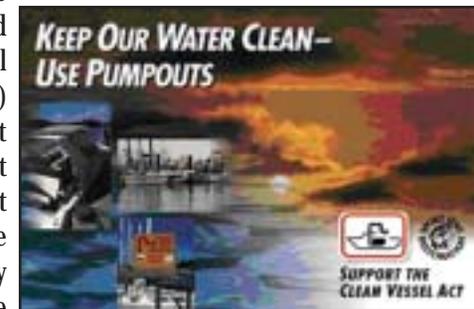
Underground storage tank (UST) fields are comprised of old, abandoned properties that have either perceived or actual contamination caused by leaking USTs. Many of these USTfields were former gas station sites and have the potential for redevelopment because they are located on main streets and major highways. The Department was awarded a \$100,000 USTfields grant from the U.S. Environmental Protection Agency to perform pilot projects at four underground storage tank sites in Selma. The USTfields grant allowed the Department to assess the four sites to determine the extent of contamination, develop corrective action plans, and clean up contamination at each site. The Department maximized the effectiveness of the \$100,000 grant by utilizing in-house resources to perform a large portion of the fieldwork, analyses, and technical review.

Permanent Antidegradation Rules Adopted

The Department is now implementing the antidegradation rules that were adopted at the June 25, 2002, meeting of the EMC. The adoption of these permanent rules fulfills the requirements of a recent Alabama Supreme Court ruling. In March 2002, the Alabama Supreme Court ruled that the antidegradation implementation "procedures" that were being utilized by the Department should be adopted as permanent rules under the Alabama Administrative Procedures Act. In accordance with the court ruling, the Department initiated the rulemaking process, which included a public comment period and a public hearing. Based upon comments received during the public comment period, the Department made modifications to the proposed regulations which were subsequently adopted by the EMC. At this time, a legal challenge has been filed concerning the technical requirements of the antidegradation implementation rules.

Marine Discharges Controlled

The Alabama Clean Boating Bill was passed during the 2002 Regular Session of the Legislature and authorized the Alabama Department of Conservation and Natural Resources to inspect marine sanitary devices (MSDs) on boats in Alabama. Beginning October 1, 2003, it also requires all marinas that have boat customers that utilize MSDs with holding tanks to install a pumpout system to handle waste from these boats. The Department administers a grant program authorized by the Clean Vessel Act which provides funding for the construction and maintenance of these pumpout stations at marinas. Since 1992, the Department has provided \$650,000 to install pumpout stations at 45 marinas across the state.



WATER

State Revolving Loan Fund Program (SRF) Provides Over \$95 Million

The Department continued its efforts to assist cities and municipalities with the upgrade/installation of drinking water and wastewater infrastructure by providing more than \$95 million in low-interest loans in 2002. The money provided through these low-interest loans allows cities and municipalities to install drinking water treatment and distribution systems, as well as wastewater treatment systems and collection lines.

The loans are provided to help fund projects in urban and rural communities of all sizes. The loans not only conserve taxpayer dollars by providing money at a low interest rate, but also protect public health and the environment. The projects improve water quality by ensuring that wastewater is properly treated prior to being discharged and also provide a safe, adequate supply of drinking water for Alabama citizens.

The loans are issued under two separate programs encompassed in the Clean Water State Revolving Fund and the Safe Drinking Water State Revolving Fund. The Clean Water State Revolving Fund, implemented in 1989, has provided 147 loans of more than \$688 million. In 2002, this program provided loans totaling more than \$52 million to support six local projects. The Safe Drinking Water State Revolving Fund was implemented in 1997 and provided five loans totaling \$43 million in 2002.

New Notification Requirements for Sanitary Sewer System Overflows

In June 2002, the EMC adopted revised regulations to address environmental concerns arising from sanitary sewer system overflows. Many older or inadequate sanitary sewer systems become stressed beyond their capacity when heavy rainfalls dump excessive water into them. Often, these sanitary sewer systems experience above-ground overflows and run-off of untreated effluent into surface waters of the state. These occurrences can overwhelm wastewater treatment facilities and endanger the public health.

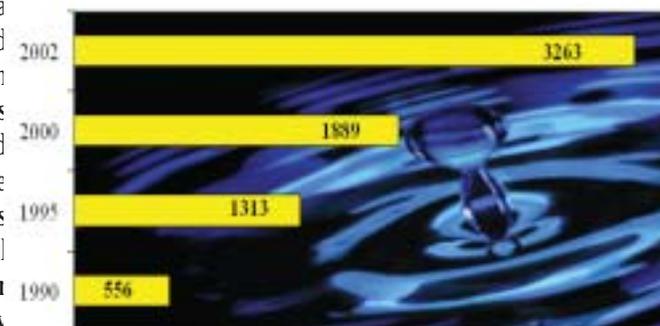
Previous ADEM regulations required wastewater treatment facilities to notify the Department of sanitary sewer system overflows within 24 hours of their occurrence. Although ADEM's regulations were deemed equivalent to similar federal regulations, the Department received numerous comments concerning a lack of requirements for wastewater treatment facilities to notify local health departments and citizens in a more timely manner when overflows occurred.

ADEM, in cooperation with the Alabama Department of Public Health (ADPH), developed more stringent regulations that outlined notification requirements for wastewater treatment facilities when sanitary sewer system overflows occur. Based on the Department's proposal, regulations were established requiring wastewater treatment facilities to notify local health departments, municipal authorities, public water systems, citizens, and other affected entities as soon as possible when a sanitary sewer system overflows and when the overflow could reach a surface water of the state and pose a public health threat.

Local Water and Wastewater Operator Certification

Through Alabama's Water and Wastewater Operator Certification Program, the Department certified or recertified more than 477 local water and wastewater system operators in FY 2002. The program encompasses all drinking water systems and wastewater treatment systems and is designed to protect the public and the environment by assuring the competency of operators of such plants. The program requires participants to gain experience and complete continuing education courses in plant operations and the certifications must be renewed every three years. The Department received a grant from the EPA which enabled it, along with other private and nonprofit organizations, to fund 200 training courses in 2002.

Number of Certified Operators



Fish Tissue Monitoring

Results from the fiscal year 2002 fish tissue monitoring program indicated that most fish from the river basins sampled last fall did not contain elevated levels of contaminants. A total of 407 fish were collected from 34 locations in 20 waterbodies. Sampling included waterbodies that have not been sampled in the past, as well as those currently under consumption advisories issued by the ADPH.



Very little, or no, bioaccumulation of pollutants were detected in bass and catfish from Aliceville, Gainesville, Demopolis, and Coffee Reservoirs in the Tombigbee River basin, and Big Creek Reservoir in the Tennessee River basin. Similar results were recorded in samples collected from two stations on the Mobile River and one station each on the Tensaw River, Hog Bayou, Bay Minette Creek, Sandy Creek, Wolf Creek, Bon Secour Bay, Mobile Bay, Portersville Bay, and Weeks Bay.

Polychlorinated biphenyl (PCB) levels exceeded the Food and Drug Administration

(FDA) guideline of 2 ppm in composite samples of striped bass collected in the vicinity of Croft Ferry in upper Neely Henry Reservoir, in the vicinity of the Interstate 20 bridge in Logan Martin Reservoir, and in the dam forebay of Lay Reservoir. Additionally, PCBs exceeded FDA guidelines in composite samples of blue catfish from the Choccolocco Creek portion of Logan Martin and upper Lay Reservoir as well as in composite samples of channel catfish from Logan Martin Reservoir in the vicinity of the State Hwy 34 bridge.

Mercury levels were above FDA guidelines of 1 ppm in composite samples of largemouth bass from the Escatawpa River, Fowl River, Fish River, and Styx River. In addition, two fish in a sample of six largemouth bass from Chickasaw Creek and one fish in a sample of six largemouth bass from the Tensaw River exceeded FDA levels for mercury.

The monitoring program at three locations below bleach kraft paper mills checked fish for dioxin levels. Bass and catfish below these discharges to the Coosa River, Tombigbee River and Alabama River showed no dioxin or concentrations well below established levels of concern in fish tissue.



All samples were analyzed by the ADEM Laboratory for contaminants with the potential to bioaccumulate (PCBs, arsenic, chlordane, toxaphene, mercury, mirex, DDT, DDD, DDE, dieldrin, dursban, endrin, heptachlor, heptachlorepoide, endosulfan, hexachlorobenzene, lindane, and certain heavy metals). The monitoring program also included an evaluation of the physical condition of important sport and/or commercial fish species. Some 91 percent of the fish checked had no anomalies, a value similar to those of previous years.

Data from the monitoring program were forwarded to the ADPH and new fish consumption advisories or changes to existing advisories have been addressed. The ADPH provides information on all current fish consumption advisories at its website—www.alapubhealth.org. The site also provides information on ways to prepare fish to limit exposure to contaminants that may be present.

Water Quality Monitoring

The Department continues to monitor the water quality of Alabama's rivers, lakes, and streams through a number of different programs. These programs allow the Department to collect data to assess water quality parameters, determine the need for additional regulatory requirements, and gauge the effectiveness of other Department activities such as the National Pollutant Discharge Elimination System (NPDES) program.



The Reservoir Water Quality Monitoring Program (RWQM) is one program implemented by the Department to assess water quality in Alabama's reservoirs. The RWQM program was established in 1990 with a limited number of data collection sites. However, the Department has continued to increase its efforts in this program and during fiscal year 2002, the Department performed 473 monitoring station visits at 83 different reservoir locations.

The Department continually monitors water quality during the critical, seasonal transition periods on Alabama's lakes. The



Department collects a wide variety of water quality data at each of these reservoir locations including dissolved oxygen, biochemical oxygen demand, total suspended solids, total dissolved solids, pH, and chlorophyll content. The collection of this water quality data allows the Department to document trends in water quality data over long periods of time and identify potential water quality problems. The data gathered under this program also supports a number of other ADEM activities including the



establishment of water quality standards such as nutrient criteria.

The Department also monitors various creek and stream segments to obtain water quality data and document water quality trends. The segments that are monitored can consist of creeks and/or streams that are on the 303(d) list as well as segments where water use classification upgrades are being considered.



These monitoring activities consist of the collection and laboratory analysis of water samples for bacteria and a wide range of other pollutants. Additionally, the Department records visual observations of the stream segments including flow rates and temperature to determine the overall quality of the stream segment.

The collection and analysis of the water quality data collected in these areas allows the Department to continually assess the quality of Alabama's rivers, lakes, creeks, and streams.

Beach Monitoring

In June of 1999, in an effort to increase public awareness and provide valuable water quality information, ADEM, in cooperation with the ADPH, initiated the Coastal Alabama Recreational Water Quality Monitoring Program. This program involved routine bacteriological sampling at five selected recreational beaches



along the Alabama Gulf Coast. Under a grant from the EPA's Gulf of Mexico Program (GMP), this effort was expanded in 2000 to include an additional six sites along the gulf beaches and Mobile Bay. Currently, 11 sites are sampled twice weekly during the summer and monthly during the winter. Samples are analyzed for bacteriological indicators including fecal coliform and Enterococci. These bacteria by themselves are not considered harmful to humans, but often occur in the presence of potential human pathogens.

The Mobile Branch of ADEM conducts the sampling and fecal coliform analyses while the ADPH conducts the Enterococcus analyses and is responsible for issuing swimming advisories when necessary. All test results are posted on the ADEM website and advisories are publicized through press releases and posted on signs at two of the sampling locations. As of July 15, 2002, 1,165 samples had been collected resulting in six advisories being issued by the ADPH. Publicity generated through this program has indirectly led to the upgrade and improved monitoring of sewer collection lines in Mobile and Baldwin Counties, as well as a high flow contingency plan for the city of Daphne where excess sewage flow can be diverted to an alternative temporary storage site. The municipalities of Fairhope and Daphne have also posted their public beaches with signs indicating current bacteriological water quality conditions. Funding for this program through the GMP expired at the end of June 2002.



However, ADEM was designated as the lead agency for the development and implementation of the federally-mandated Beaches Environmental Assessment and Coastal Health (BEACH) Act for coastal Alabama. Provisions of the Act help the public make informed decisions about water



Fort Morgan Aerial View

quality and the potential risks of illness associated with swimming. The Department was awarded a \$263,000 grant from the EPA to continue its year-round water quality monitoring and public notification process for 11 extensively used recreational beaches along the Gulf Coast and in Mobile Bay.