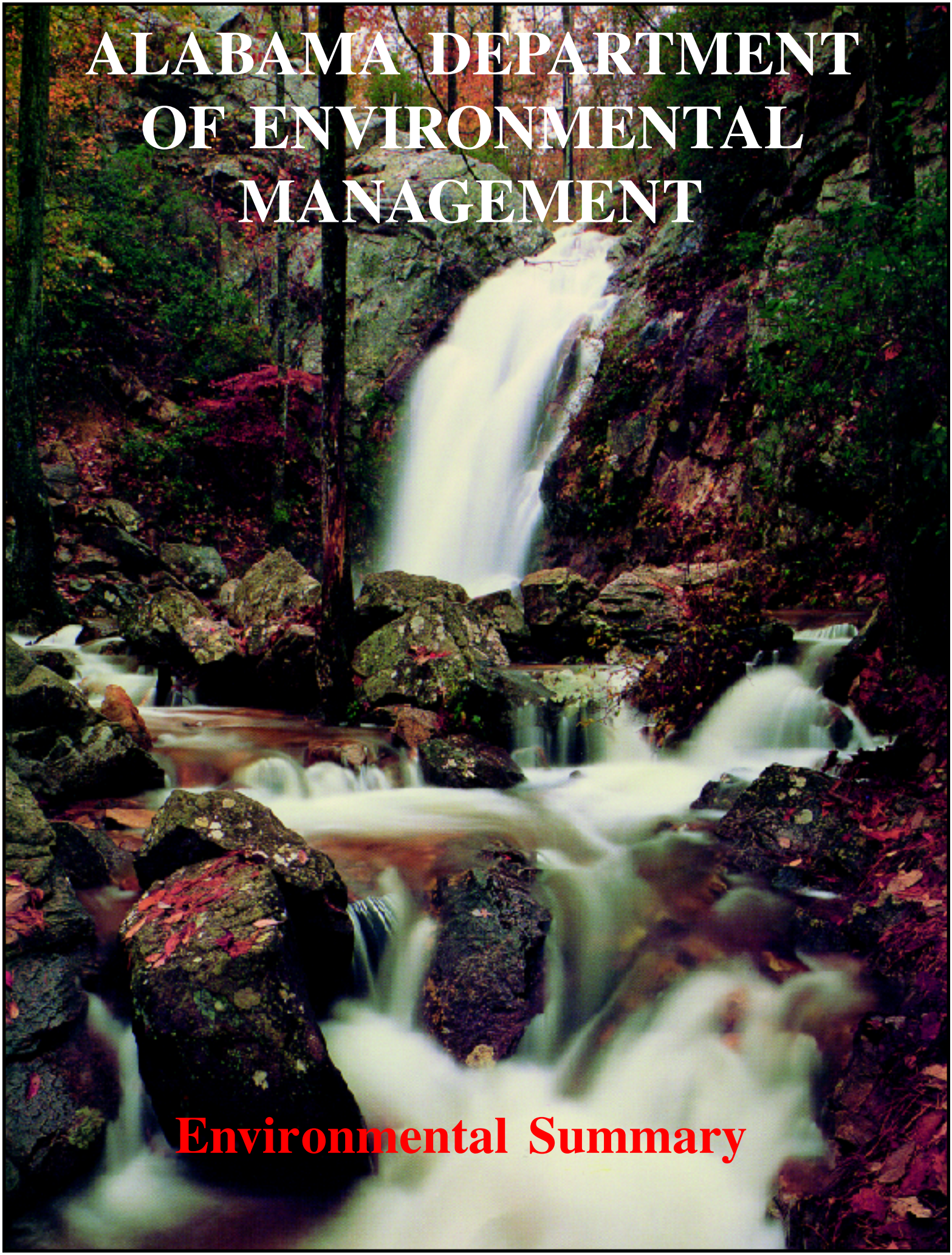
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



Environmental Summary

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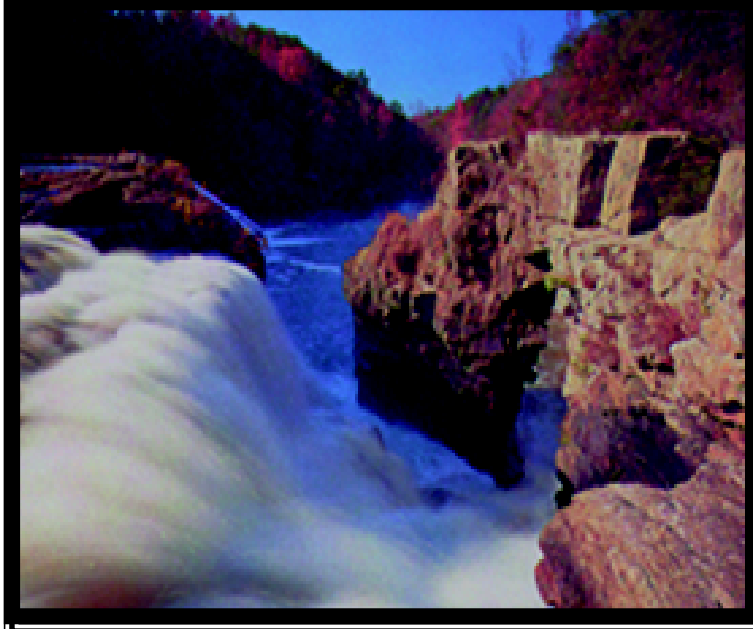


LETTER FROM THE DIRECTOR

The events of September 11, cast a shadow over 2001. The employees of ADEM extend condolences to all the families who were directly impacted by those terrorist acts and offer our support for all American military personnel who are responding, both here and abroad.

To help protect Alabama citizens from possible terrorist threats, ADEM sponsored seminars in November 2001 for all state drinking water systems. These meetings brought large and small systems together to share information on ways to protect drinking water, arguably our most valuable resource. System operators received helpful information from the FBI, U.S. Justice Department, the Alabama Attorney General's office and numerous other agencies on common sense methods of protection.

Apart from the national tragedy, 2001 offered additional challenges and opportunities for this state's environmental agency. A continuing trend of cuts in State General Fund support have been met with an array of innovations to include expanded use of electronics and general permits, and I am proud of the way our employees have responded to the challenges. However, we have reached the point where further losses of funds will make it difficult, if not impossible in some areas, to meet statutory obligations.

A major positive development this year was the Legislature's passage of the Alabama Land Recycling and Economic Redevelopment Act. This act encourages voluntary environmental assessments and cleanups of abandoned or underutilized industrial sites. We believe there is tremendous potential for this program to create jobs, return properties to the tax roles, and address existing environmental problems while simultaneously reducing development pressure on undeveloped areas.

We continued to make progress in improving water quality this year as evidenced by the development of additional Total Maximum Daily Loads consistent with court-ordered schedules and the proposal for nutrient standards for nine additional lakes.

Ozone reduction plans for the Birmingham area were approved by EPA and are projected to achieve attainment with the current standards by 2003. The state's plan to reduce nitrogen oxides statewide also received federal approval, and when implementation is complete, Alabama will have cleaner air.

I would like to thank the Governor, the Legislature, other agencies of the State of Alabama, regulated entities and citizen and environmental groups for their contributions to the accomplishments recorded this past year. Last, but certainly not least, I want to acknowledge all the dedicated ADEM employees who work every day for environmental improvement.

Sincerely,

James W. Warr
ADEM Director

Richard A. Thigpen, LL.D.
(Chair)
Resigned December 6, 2001

Alabama Environmental Management Commission Chairman Thigpen was appointed by Governor Fob James, Jr. in 1997 to serve in the attorney position. Thigpen, now retired, served as professor emeritus at the University of Alabama School of Law. He also served as acting president of the University, as well as executive and academic vice president.

William M. Sanders, M.D.
(acting Chair)

Vice Chairman Sanders was appointed to the physician position in 1998 by Governor Fob James Jr. He is both a General Practioner and a Psychiatrist and currently practices with Correctional Medical Services in Prattville.

Alan G. Symons, P.E. (Ret.)

Governor Fob James, Jr. appointed Mr. Symons of Elberta to the position requiring Certification by the American Water Well Association in 1997. He is a retired environmental engineer with years of groundwater experience and a U.S. Army World War II veteran.

John H. Lester, D.V.M.

Governor Don Siegelman re-appointed Dr. John Lester in 2001 to serve in the chemist/veterinarian position. Dr. Lester practices at the Lester & Donaldson Veterinary Hospital in Enterprise. He is active in civic organizations and served as past president of the Enterprise City Council.

R. D. Hicks

R. D. Hicks was appointed by Governor Jim Folsom, Jr. to serve in the at large position in 1994. Hicks is President of Hicks Enterprises, a homebuilding and earth moving company in Stevenson.

Patrick H. Byington

Governor Don Siegelman appointed Patrick Byington of Birmingham to the biologist/ecologist position in 2001. Byington is publisher of Bama Environmental News, an online statewide environmental newsletter, serves as a program manager for the Southern Environmental Center and is also an environmental consultant to several organizations.

Sam H. Wainwright, P.E.

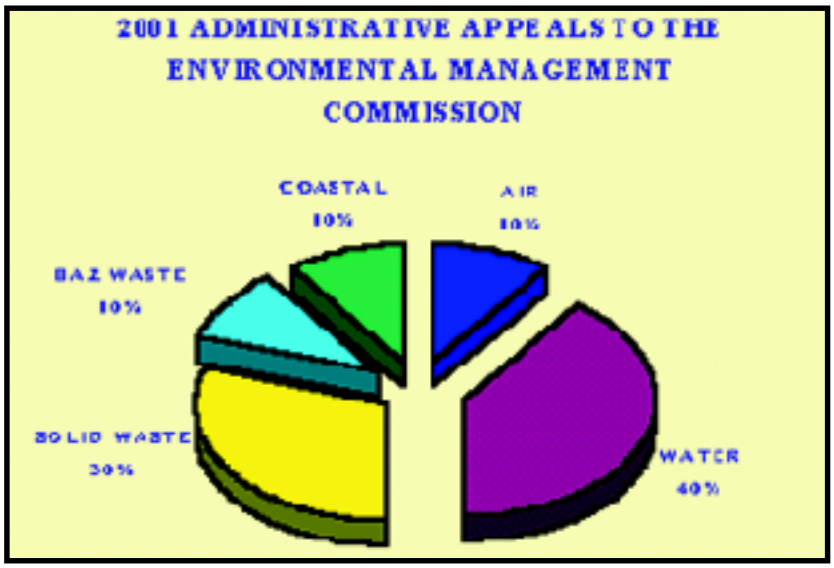
Governor Fob James, Jr. appointed Sam H. Wainwright of Dothan to the engineer position in 1998. Wainwright is a retired Registered Professional Engineer and former owner of Wainwright Engineering. He is an Eagle Scout and received numerous awards for volunteer service with the Boy Scouts of America. Mr. Wainwright has also been inducted in the Alabama Engineering Hall of Fame.

Charlotte Carter, Ph.D.

Governor Fob James, Jr. appointed Charlotte Carter to the biologist/ecologist position in 1994. Carter is the Dean of the School of Arts and Sciences Department at Stillman College in Tuscaloosa. She served as chairman of the commission from 1996 through 1999. Her term expired in 2000, and she left the Commission in 2001.

Environmental Management Commission

In 1982 the Alabama Legislature created the Alabama Environmental Management Commission and established the Alabama Department of Environmental Management. The law also provided for several commissions, agencies, programs and staffs responsible for implementing various separate environmental laws to be absorbed by the department. The department administers all major federal environmental laws, including the Clean Air Act, Clean Water Act, Safe Drinking Water Act, and federal solid and hazardous waste laws. The department and Commission have separate duties and are clearly defined in the Environmental Management Act.



The seven-member Environmental Management Commission, whose members are appointed to six-year terms by the governor and subject to confirmation action by the Alabama Senate, is charged with developing environmental policy, hearing administrative appeals of permits, administrative orders and variances issued by the department, adopting environmental regulations, and selecting an ADEM director.

The Environmental Management Commission elects a chair from its members for a term of no more than three consecutive years. Three recent commissioners are pictured above.

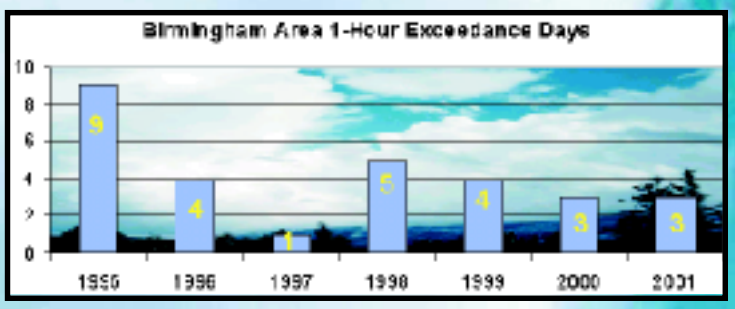
n	Dewey A. White, Jr., M.D.	1983 - 1985
n	Stanley L. Graves	1985 - 1988
		1991 - 1994
n	Cameron M. Vowell, Ph.D.	1989 - 1991
n	W. David McGiffert	1995 - 1996
n	Charlotte Carter, Ph.D.	1996 - 1999
n	Richard Thigpen, LL.D.	1999 - 2001

State Law Sets Member Qualifications

- **One member shall be a physician** licensed to practice medicine in the State of Alabama and shall be familiar with environmental matters;
- **One member shall be a professional engineer** registered in the State of Alabama and shall be familiar with environmental matters;
- **One member shall be an attorney** licensed to practice law in the State of Alabama and shall be familiar with environmental matters;
- **One member shall be a chemist** possessing as a minimum a bachelor's degree from an accredited university or a veterinarian licensed to practice veterinary medicine in the State of Alabama and shall be familiar with environmental matters;
- **One member that has been certified by the National Ground Water Association Certification Program;**
- **One member shall be a biologist or an ecologist** possessing as a minimum a bachelor's degree from an accredited university and shall have training in environmental matters; and
- **One member shall be a resident of the State** for at least two years but shall not be required to have any specialized experience.

Air Quality Standards

National Ambient Air Quality Standards or NAAQS set the dividing line between healthy and unhealthy air. EPA sets the standards for six pollutants nationwide, and designates areas of the country as "attainment" or "nonattainment." Every area of Alabama meets current air quality standards except the Birmingham nonattainment area (Jefferson and Shelby counties), for ozone.



Birmingham SIP

Requires cleaner gas

EPA has approved the Birmingham State Implementation Plan (SIP) for reducing ground-level ozone. The plan requires the use of a cleaner gasoline until national standards take effect in 2004, and 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 by 2003.

In addition to the health implications of failing to meet the standards, a nonattainment designation could cause the loss of federal highway funds and hamper economic growth until attainment status is achieved.

The cleaner gasoline has lower sulfur levels and a lower vapor pressure than conventional gasoline. Sulfur, a naturally occurring impurity, degrades the effectiveness of an automobile's catalytic converter.

Vapor pressure is the measure of the rate of evaporation of gasoline. Lowering the vapor pressure reduces evaporative losses from vehicle fuel tanks, lines, and carburetors as well as losses from gasoline storage and transfer facilities.

Federal law sets national fuel parameters, and ADEM's staff demonstrated, through a comprehensive waiver application process, that the cleaner gas was needed to achieve the ozone standard in the Birmingham area.

NOx SIP Call

A separate NOx SIP for Alabama's air quality was approved by EPA in July 2001. Alabama was the first state in the Southeast to gain approval.

This rule affects Alabama in addition to 21 other states and the District of Columbia. EPA requires that SIPs from these states contain provisions adequate to prevent sources from emitting pollutants that contribute significantly to nonattainment or interfere with maintenance of air quality standards in a **downwind** state.

The states and D.C. are expected to participate in a multi-state NOx cap and trade program, similar to the SO_2 Acid Rain trading program.

The NOx SIP Call requires large emission reductions from fossil fuel fired equipment during "ozone season" (May 1 through September 30). This includes large electric generating units, large industrial boilers and turbines, stationary internal combustion engines, and cement kilns. The state will propose controls for stationary internal combustion engines in a future submittal.

Sources impacted in Alabama are those located in the following counties: Autauga, Bibb, Blount, Calhoun, Chambers, Cherokee, Chilton, Clay, Cleburne, Colbert, Coosa, Cullman, Dallas, Dekalb, Elmore, Etowah, Fayette, Franklin, Greene, Hale, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Lee, Limestone, Macon, Madison, Marion, Marshall, Morgan, Perry, Pickens, Randolph, Russell, Shelby, St. Clair, Sumter, Talladega, Tallapoosa, Tuscaloosa, Walker and Winston.

Controls are expected to be in place by May 31, 2004, and projections show that these controls will result in reductions of approximately 50,000 tons per year by 2007.

8-Hour OZONE Concentrations Charts

Birmingham Area

Station	3-Yr Avg 1999-2001	4th High Values 2001	2000	1999
Fairfield	.085	.078	.086	.092
Pinson	.088	.080	.089	.096
Tarrant	.085	.080	.085	.092
McAdory	.090	.084	.094	.092
Hoover	.091	.086	.092	.097
Helena	.096	.089	.099	.100
N. B'ham	NA	.079	.085	NA
Corner	NA	.081	.087	NA
Providence	NA	.086	.088	NA
Leeds	NA	.071	NA	NA

Mobile Area

Station	3-Yr Avg 1999-2001	4th High Values 2001	2000	1999
Chickasaw	.083	076	.089	**.085**
Bay Road	.082	.071	.093	.084
Fairhope	NA	.078	.097	NA
Axis	NA	NA	NA	.079

New Air Quality Standards

New, more stringent standards for ground level ozone and particulates were established in 1997, and subsequently challenged in court. The United States Supreme Court upheld EPA's authority to revise air quality standards; however, the new standards will go into effect only if EPA makes formal designations of areas as attainment/nonattainment.

ADEM has a network in place to monitor both particulates and ground level ozone. The department continues to analyze the state's network and place monitors to assess air quality for the new standards. Several new ozone monitors have been installed in recent years, with the latest being placed online in 2001 in Tuscaloosa County.

The new ozone standard is satisfied when the 3-year average of the fourth highest daily maximum 8-hour average is less than or equal to 0.084 ppm (or 84 ppb). The following table illustrates the attainment status as shown by the monitoring network. Blue areas indicate attainment, red areas indicate nonattainment and gray areas indicate data was not available for the referenced period.

8-HOUR OZONE DESIGN VALUES

Monitor	99-01	98-00	97-99
Ashland	0.084	0.088	0.088
Bay Road	0.082		
Chickasaw	0.083	0.090	0.088
Elmore (DBT)	0.079	0.084	0.079
Sumter Co.	0.075		
Montgomery	0.085	0.090	0.084
Sipsey	0.082	0.086	0.084
Huntsville	0.087	0.091	0.090
Helena	0.096	0.102	0.097
Fairfield	0.085	0.093	0.093
McAdory	0.090	0.094	0.089
Hoover	0.091	0.094	0.091
Pinson	0.088	0.092	0.088
Tarrant	0.085	0.090	0.091

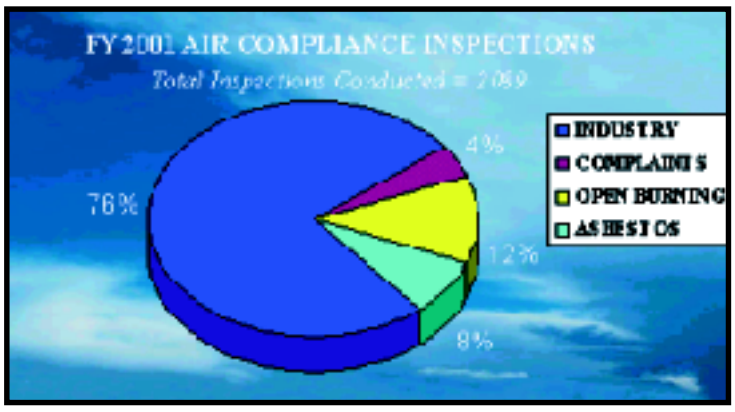
The Fairhope, Decatur, Corner, Providence, and North Birmingham monitors were put into operation in the 2000 ozone season. Tuscaloosa and Leeds monitors were placed into operation in the 2001 ozone season. Accordingly, three years of data for these sites will not be available until 2002 and 2003, respectively.

Visible Emissions Certification

AIR

ADEM conducts a Visible Emissions Certification Program (smoke school) 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 use. The ADEM 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 "smoke school" attendees are regulatory personnel, consultants, and people 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 reads smoke plume opacities within a 7.5 percent margin of error, he/she is certified. The lecture certification is valid for three years and the field certification is valid for six months. During the 2001 fiscal year, 269 individuals were certified in the lecture portion and 792 individuals in the field portions.

DID YOU KNOW.....



Birmingham and Mobile Ozone Awareness Programs

The Birmingham and Mobile Ozone Awareness Programs began in 1996 and 1999, respectively. These programs were developed by ADEM, local governments, businesses, and industries to:

1. *increase public awareness of ground level ozone;*
2. *declare Ozone Alerts on days when weather conditions are favorable for ozone concentrations to approach or surpass the air quality standard for ozone for the 8-hour averaging period;*
3. *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 the participation of the public on Ozone Alert days and ADEM's ability to predict the days when the ozone level will reach or surpass levels considered unhealthy. Daily ozone forecasts are issued by ADEM for Mobile and Birmingham during the months of April through October when ozone formation is most likely. Forecasts are issued Sunday through Friday by no later than 3 p.m. and predict ozone levels for the next two days. The Friday forecast is a three-day forecast for Saturday, Sunday, and Monday. All daily ozone forecasts are prepared by ADEM meteorologists and are based on predicted weather conditions, ozone forecast models, and observed ozone trends in the Birmingham and Mobile areas.

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

2001 Ozone Forecast Scale		
Forecast	Forecast Air	Forecast Message
GREEN	Good	No Health Impacts are expected
YELLOW	Moderate	Unusually sensitive people should consider limiting prolonged outdoor
ORANGE	OZONE ALERT - Unhealthy for	Active children and adults, and people with respiratory disease, such as
RED	OZONE ALERT -	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion; everyone else, especially children, should
PURPLE	OZONE ALERT - Very	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion; everyone else, especially children, should

Ozone Alert Day Tips:

- **Conserve electricity and set your air conditioner at a higher temperature (try for 78°);**
- **Carpool or use public transportation when possible;**
- **Defer the use of gasoline-powered lawn and garden equipment;**
- **Refuel automobiles after dusk;**
- **Combine errands and reduce trips;**
- **Limit engine idling;**
- **Children and the elderly should limit outdoor activities.**

Everyday Tips:

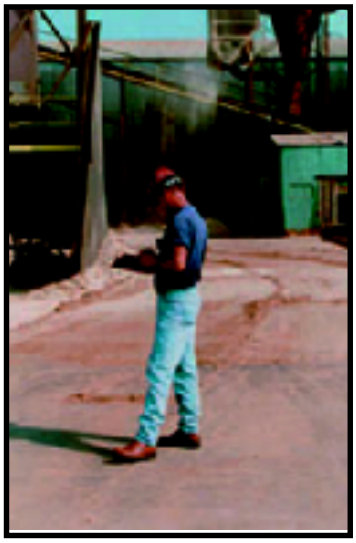
- **Always conserve energy – at home, at work, everywhere;**
- **Follow gasoline refueling instructions for efficient vapor recovery. Be careful not to spill fuel and always tighten your gas cap securely;**
- **Keep car, boat, and other engines tuned according to manufacturers' specifications;**
- **Keep tires properly inflated;**
- **Car pool, use public transportation, bike, or walk whenever possible;**
- **Use environmentally safe paints and cleaning products whenever possible;**

In 2001, ADEM, in concert with the Jefferson County Department of Health and the University of Alabama - Huntsville Earth Systems Science Center, evaluated new modeling techniques to improve the accuracy of ozone forecasts.

From left: Lisa Hall, Geoff Healan, and Jim Owen work in ADEM's Ozone Forecasting Center.

Field Certification Exercise

Continuous Emissions Monitoring System Audit Program



ADEM 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 source. Twenty CEMS were audited by ADEM for precision and accuracy and approximately 95 certifications or recertifications were observed. ADEM personnel also audited 20 CEMS at five electric generating plants. Two types of CEMS audits are 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 to determine accuracy.

Air Permit Program Receives EPA Approval

AIR

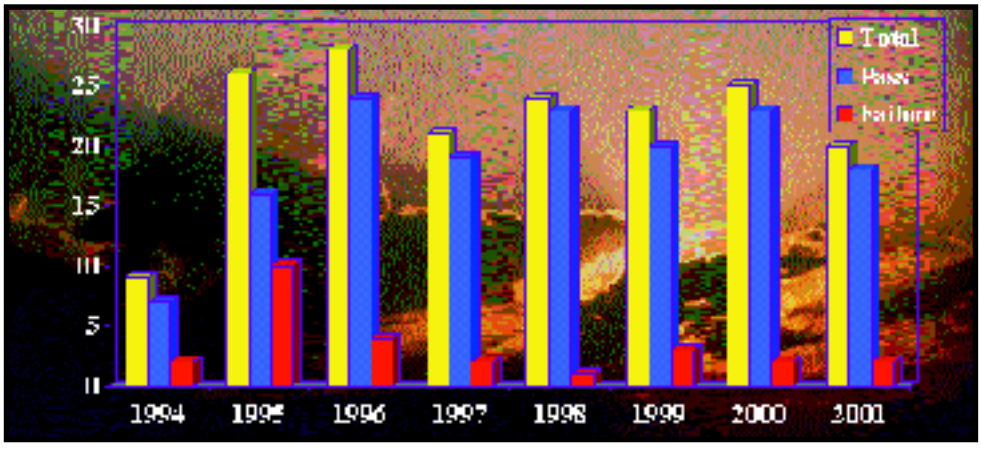
On August 28, 2001, the EPA approved ADEM's major source operating permit program. The approved program submittal was made in response to a Title V directive in the 1990 Clean Air Act (CAA) Amendments, requiring air regulatory authorities to develop and submit to EPA for review and approval an operating permit program for major stationary sources.

In implementing the Title V operating permit programs, permitting authorities require certain sources of air pollution to obtain permits that contain all applicable requirements under the CAA, and to pay emission fees to the permitting authority to offset the cost of administering the program. Congress established the operating permit program to improve enforcement of regulatory requirements by requiring a single, renewable permit that documents all applicable, federally enforceable air pollution control requirements. Through this consolidation of requirements, the source, the public, the permitting authority, and EPA can all more easily determine which CAA requirements apply and how compliance is determined.

ADEM regulates more than 300 major sources of air pollution in the State and will soon complete its initial cycle of Title V operating permits.

In addition to granting approval to ADEM's program, EPA's August 2001 action also proposed full approval of the Title V operating programs administered by the City of Huntsville Division of Natural Resources and the Jefferson County Department of Health. These local air pollution programs are responsible for the implementation of the requirements of Title V within their jurisdictions.

Total Audits Performed Since Fiscal Year 1994



Water Quality

The federal Clean Water Act requires each state to develop a program to monitor the quality of surface and ground water and to report its findings to EPA every two years. Information from all states is then incorporated in the "Biennial Water Quality Report to Congress," also known as the 305(b) report.

States are required to designate use classifications for each water body in the state based on monitoring data; however, a single waterway segment may have more than one classification. Criteria for classification include evaluation of factors such as dissolved oxygen, fecal coliform bacteria, temperature, and pH (a measure of acidity/alkalinity). EPA provides this guidance to the states.

Consistent with ADEM's policy of upgrading all waters to a Fish & Wildlife classification where attainable, waters classified as Agricultural and Industrial Water Supply were reviewed for possible upgrade. A new water classification, "Limited Warmwater Fishery," was created after analyses for many of these waters showed that a quality commensurate with Fish and Wildlife was attainable year-round for some parameters, and on a seasonal basis for other parameters.

Many other efforts, including the development of Total Maximum Daily Loads and nutrient standards, assist [directly or indirectly] in upgrading stream classifications.

Since 1978, 318 stream miles have been upgraded from the Agricultural and Industrial classification.