

Building Strong Collaborative Relationships for a Sustainable Water Resources Future:

STATE OF ALABAMA

SUMMARY OF STATE WATER PLANNING

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The findings contained in this report are based on the information collected from the literature search and interviews for this initiative and should not be construed as an official Department of the Army position, policy or decision unless so designated by other official documentation.

STATE OF ALABAMA¹

1. STATE/REGIONAL WATER PLANNING STATUS

Alabama's Department of Economic and Community Affairs' (ADECA) Office of Water Resources (OWR) is the principal water supply management agency while the Department of Environmental Management (ADEM) is the principal water quality management agency. The state does not have a comprehensive statewide water resources plan or a statewide water supply plan. Alabama's statewide water quality plan, produced by ADEM's Office of Education and Outreach Nonpoint Source Unit, is called, "Alabama Nonpoint Source Management Program (NPS Plan)."

The Nonpoint Source Unit also assists regional, non-profit Clean Water Partnerships to develop their respective River Basin Management Plans (RBMPs). There are 14 RBMPs (Figure 1): Alabama, Black Warrior, Cahaba, Chattahoochee/Chipola, Choctawhatchee/Pea/Yellow, Coastal, Conecuh/Sepulga, Lower Coosa, Middle Coosa, Tallapoosa, Tennessee, Tombigbee, Upper Coosa, and Yellow Creek. In general, RBMPs elaborate on the framework set by the NPS Management Program.

In 2004, OWR published the Alabama Drought Management Plan, which "defines a process to address drought and drought related activities, such as monitoring climatic conditions, vulnerability assessments, impact assessments, response and mitigation." This 18-page document outlines the role of the OWR and the Alabama Drought Assessment and Plan Team (ADAPT) in drought planning, delineates the state by counties, establishes a drought advisory system, and advises regional and local water suppliers and users on proper drought response. ADAPT must review the Drought Management Plan at least every five years and after each drought event. Based on this review, ADAPT recommends appropriate changes to the plan.

Despite the need and provision for a statewide water supply plan given by both the Water Resources Management Act (§9-9, Code of Alabama) and the Water Resources Act (§9-10, Code of Alabama), a plan for water supply management during non-drought times does not exist. In response to this deficiency, the Alabama Legislature passed Alabama Senate Joint Resolution 28 (SJR28) in 2008. SJR28 states that the Legislature recognizes the following:

- *The conservation and management of the state's water resources are absolutely necessary to preserve and protect our health, economic security, and recreational use.*
- *A reliable and ample water supply is of great importance to all sectors of Alabama's economy.*
- *Long-term sustainability of the state's water supply and efficient and effective distribution of water resources are becoming increasingly important to sustain Alabama's population growth and economic expansion.*
- *The future water needs of the state also present opportunities to plan regionally with other area water partners and to establish safe and effective intrastate and interstate water conservation strategies.*

¹ Representatives from the State of Alabama did not participate in an interview.

- *The use of existing technologies and development of new technologies and strategies regarding water resource planning and coordination and strategies are essential to meeting our current and future water needs.*
- *A comprehensive state policy and an integrated interstate policy are critical for planning and managing the water resources of the state.*

SJR28 created the Alabama Permanent Joint Legislative Committee on Water Policy and Management. The intent of this committee is to develop the Alabama Water Management Plan that will advise the Governor and Legislature on a course of action to address both short- and long-term water supply challenges. The Committee is composed of various committee chairs from both the House and the Senate, and additional members from the House and Senate appointed by the Lieutenant Governor and the President Pro Tempore of the Senate. Four subcommittees will focus on different aspects of the proposed plan:

- Conservation, efficiency, water quality, and drought management
- Water management mechanisms, strategies, and policies
- Agriculture, transportation, industry, and recreation
- Water resource assessments, studies, data collection, and storage

A fifth subcommittee will provide technical advice and is comprised of members from various state agencies and regulatory-based organizations including the Department of Agriculture and Industries (ADAI) Commissioner, the Department of Conservation and Natural Resources (ADCNR) Commissioner, the OWR Division Chief, the State Geologist, and the ADEM Director. The Committee will provide their recommendations to the Alabama Legislature during the next regular session in 2009.

Aside from the Water Management Plan, there are no additional initiatives to create integrated water resources management plans at the state or watershed level.

2. RESPONSIBLE STATE AGENCIES/REGIONAL ENTITIES

Responsibility for planning and management of Alabama's water resources is divided between ADECA and ADEM.

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OWR was established by the Alabama Water Resources Act. Functions and duties of the OWR include (§9-10B-5):

- Develop[ing] long-term strategic plans for the use of waters of the state by conducting and participating in water resources studies
- Acting through the [Alabama Water Resources] Commission, to adopt and promulgate rules, regulations, and standards
- Develop[ing] policy for the state regarding waters of the state
- Serving as the state's repository for water supply data
- Representing the state in interstate water issues
- Conducting floodplain and drought planning
- Developing dam safety plans
- Conducting studies and surveys of water resources related to supply
- Providing public education and community awareness

The Water Resources Act also created two OWR oversight entities: the Alabama Water Resources Commission (AWRC) and the Water Resources Council. In addition to advising the OWR on formulation and implementation of water supply policies, plans and programs, AWRC also advises the Governor and officers of the Senate and House on state water supply issues.



Figure 1. Major Watersheds of Alabama with RBMPs.

ADEM and the Alabama Environmental Management Committee were established by the 1982 Alabama Environmental Management Act (§22-22A, Code of Alabama). Duties of ADEM are similar to OWR's but with respect to water quality. ADEM has two divisions that oversee water quality management: the Water Division and Watershed Management Division. The Water Division administers industrial and municipal water, groundwater, drinking water (Alabama Safe Drinking Water Act of 1977; §22-23, Code of Alabama), and EPA regulatory programs. ADEM's Office of Education and Outreach—Nonpoint Source Unit oversees the development of the state's NPS Management Program.

Several other state agencies are involved in the management of water and other natural resources important to watershed management (Table 1).

Table 1. State/regional agencies involved in water resources management (after Table 2-2 in the Alabama RBMP)

Agency	Responsibilities
Alabama Cooperative Extension System	Provide technical assistance and educational resources to industries, government agencies, and nongovernmental organizations
Alabama Department of Agriculture and Industries	Manage use of pesticides, encourage use of best management practices
Alabama Department of Conservation and Natural Resources	Manage, protect, conserve, and enhance wildlife and aquatic resources (Wildlife and Freshwater Fisheries Division), marine resources, and waterway safety. Uphold Clean Boating and Clean Vessel Acts (Clean Water Initiative).
Alabama Department of Industrial Relations	Restore water resources adversely affected by past coal mining (Mining and Reclamation Division).
Alabama Department of Public Health	Provide oversight and services for safe drinking water. Administer permit and inspection program for onsite wastewater disposal.
Alabama Department of Transportation	Design and maintain state stormwater management systems and coordinate stormwater permits with ADEM (Design Bureau).
Alabama Emergency Management Agency	Lead emergency preparedness and response effort for natural and man-made catastrophes, including hurricanes and floods.
Alabama Soil and Water Conservation Committee	Direct the 67 soil and water conservation districts in Alabama. With the U.S. Department of Agriculture's Natural Resources Conservation Service, provide a variety of Federal soil and water management programs including the Wetlands Reserve Program and the Environmental Quality and Improvement Program.
Tennessee Valley Authority	Manage several reservoirs, locks, and dams, including three hydroelectric dams; and maintain recreational, cultural, and natural resources in and around those reservoirs.
Geological Society of Alabama	Collect data and conduct research on Alabama's natural resources.

3. WATER MANAGEMENT VISION AND GOALS

Alabama's goals for water resources management in the state are preserving water quality and maintaining adequate water supply. To preserve water quality, the state's NPS Management Program aims to implement a comprehensive NPS program, "using a flexible, targeted, and

iterative watershed approach supported by broadly inclusive local stakeholder partnerships.” The vision of the NPS Management Program is “to effectively and efficiently implement a comprehensive nonpoint source pollution management program designed to achieve, maintain, and protect beneficial uses of surface and ground waters using a flexible, targeted, and iterative watershed approach supported by broadly inclusive local stakeholder partnerships.”

The future Alabama Water Management Plan will address the following goals and objectives (SJR28):

- i. The expansion of the availability of water needed to meet Alabama’s current and future water needs through:
 - a. Seeking assistance from appropriate federal agencies in formulating strategies for water use and conservation
 - b. Seeking input from private sector representatives regarding strategies for efficient water use management
- ii. The development of conservation programs through:
 - a. Identification and promotion of proven water use management and conservation technologies that improve water availability throughout the year
 - b. Identification and promotion of business and residential water use reduction opportunities
 - c. Increasing the usage of efficient water management products and sources through the state procurement process
 - d. Incorporating water efficiency and conservation into the design and operation of state facilities
- iii. Encouraging water management technologies and producers of water-efficient products to locate their business operations in Alabama
- iv. Adopting incentives for the conservation of and prudent use of water resources in Alabama

The vision statement of the NPS Management Plan is:

To effectively and efficiently implement a comprehensive nonpoint source pollution management program designed to achieve, maintain, and protect beneficial uses of surface and ground waters using a flexible, targeted, and iterative watershed approach supported by broadly inclusive local stakeholder partnerships.

This vision will be realized utilizing a combination of complementary regulatory and nonregulatory local, statewide, and coastal management program components in order to achieve appropriate water quality standards and use classifications; protect and maintain biological diversity and natural resources; and balance environmental protection with economic sustainability.

Indicators of progress and program implementation success in prevention, remediation, or abatement of nonpoint source pollution will be established or measured by long term water quality improvements, pollutant load reductions, implementation of best management practices, and public education, training, and resource assistance.

The NPS Program-Part I lists several tasks or implementation strategies for each of the long-term goals and short-term objectives provided in the plan. The goals are:

- *Collect reliable water quality data and information in order to ascertain the extent, degree, and potential for NPS pollution to surface and groundwaters.*
- *Integrate the Alabama NPS Source Management Program and CWA Section 319 grant funding, with development and implementation of Total Maximum Daily Loads (TMDLs).*
- *Coordinate and leverage federal, state and local funding and other resources to design, install, or maintain appropriate NPS management practices needed to attain water quality standards.*
- *Develop 10 river basin management plans (8-digit Hydrologic Unit Code Cataloging Unit) that present practical “big-picture” goals, objectives, and milestones to protect impaired or threatened waters.*
- *Develop 10 sub-watershed protection plans (11-14 digit Hydrologic Unit Code subwatershed number) to provide reasonable assurance that load allocations for targeted sources and causes of NPS pollution are being addressed and water use classifications and standards can be restored as expeditiously as possible.*
- *Support the efforts of the Alabama Clean Water Partnership (CWP) Program.*
- *Plan, sustain or expand statewide NPS education and outreach to target agriculture, silviculture, urban /construction, resource extraction, and hydrologic/habitat modification.*
- *Report as applicable, monitored or modeled estimates of nitrogen (lbs), phosphorus (lbs) or sediment (tons) load reductions to help quantify the effectiveness of Section 319 projects in protecting water quality and attaining applicable water quality standards.*
- *Obtain NOAA and EPA Final Approval of the Alabama Coastal Zone NPS Management Program (CZARA).*
- *Report annual Section 319 grants Program Administrative Efficiency Measures.*
- *Utilize a flexible, targeted, iterative, and broad-based approach to support EPA’s long-term National Vision that, “All States Are Implementing Dynamic and Effective Nonpoint Source Programs Designed to Achieve and Maintain Beneficial Uses of Water.*

4. SCOPE OF WATER RESOURCES PLANNING AND MANAGEMENT

In 1997, Alabama began implementation of a watershed management approach as a tool for assessment and prioritization of water quality issues, development of strategies and solutions, and opportunities for targeted, cooperative actions to achieve water quality goals. Among the key elements of the watershed management approach is:

- Stakeholder involvement
- Watershed monitoring
- Watershed assessment
- Prioritization and targeting development of management strategies
- Development of watershed management plans
- Plan implementation

The watershed approach to water quality is implemented on a 5-year rotating river basin schedule. For each basin, ADEM generated a NPS Assessment Report as required by the Clean Water Act Section 319(a). The results of the Assessment Reports were used to develop the RBMPs.

5. PARTNERSHIPS, STAKEHOLDER, AND PUBLIC INVOLVEMENT

Alabama Cooperative Extension System
ADECA
ADEM
Alabama Department of Agriculture and Industry
Alabama Department of Transportation
Alabama Department of Industrial Relations
Alabama Department of Public Health
Alabama Soil and Water Conservation Committee
Auburn University Environmental Institute
Alabama Erosion Control Task Force
University of South Alabama
University of West Alabama
Alabama Environmental Management Commission
Alabama Environment Council
Alabama Water Resources Institute
Alabama Agricultural and Conservation Development Commission
Alabama Association of Regional Councils

a. Local and regional providers

Alabama Power Corporation
Tennessee Valley Authority

b. Non-governmental organizations

Alabama Clean Water Partnership
Alabama Water Watch Association
Alabama Farmers Federation
Alabama Forestry Association
Legacy, Inc. - Partners in Environmental Education
Alabama Coastal Foundation
Alabama Rivers Alliance
Business Council of Alabama
Home Builders Association of Alabama
The Nature Conservancy
Ducks Unlimited

The Alabama Nonpoint Source Management Program promotes a holistic, “balanced,” watershed protection approach. This approach appears to have the greatest potential for

success because it uses local citizens to plan and implement management measures (e.g. local entities take responsibility for local problems, and provide for and implement local solutions). It is anticipated that as implementation of the rotational river basin approach proceeds, roles and responsibilities of some stakeholders (e.g. agencies, public and private organizations, groups and associations, citizens, etc.,) may change and/or some “back-sliding” may occur. Therefore, a commitment to build a strong stakeholder “base” during initial discussion and planning of a project is of primary importance.

ADEM stresses the importance of non-regulatory or voluntary approaches to NPS management plan implementation. Stakeholder participation and numerous partnerships are solicited through various public forums as well as through several educational and public outreach programs. ADEM works with several partners to provide these programs, including the Alabama Cooperative Extension System, which is a land grant partnership between Auburn University, Alabama A & M University, and Tuskegee University. Extension education program offices are located in all 67 state counties.

6. PLAN IMPLEMENTATION STRATEGY

Many of the RBMPs advocate the development of local or watershed implementation plans that have goals and objectives aligned with the RBMP. In these watershed implementation plans, stakeholders are urged to address twelve water quality improvement steps similar to EPA’s “9 Watershed Plan Elements.” Watersheds with an implementation plan are more likely to obtain Clean Water Act Section 319 funding for restoration and protection projects.

The NPS Management Program—Part I describes the long-term goals of the program, short-term objectives, and several implementation strategies and action tasks. Each RBMP contains numerous goals and objectives that are aligned with the NPS Program.

There are two main schools of thought on how to best address pollution in Alabama. One point of view emphasizes a strong regulatory “enforcement” type permitting process to manage pollutants. Another view centers on non-regulatory “voluntary” incentives as the primary control mechanism.

The Alabama Nonpoint Source Management Program promotes a complementary enforcement/voluntary strategy to ensure environmental protection and economic viability. With increasing population growth and development as evidenced by urban sprawl, continued threats to water quality and competition for water quantity to support industry, municipalities, agriculture, and wildlife/aquatic life is likely. This management program supports regional and local planning and zoning efforts and more dialogue to champion the connection between good land management policies, quality of life, and protection of water quality (e.g. implementation of ADEMs watershed approach).

The regulatory approach focuses on applicable National Pollutant Discharge Elimination System (NPDES) permitting and enforcement authorities primarily under the Clean Water Act (CWA) of 1972, as amended; the Alabama Water Pollution Control Act (AWPCA), Code of Alabama, 1975, as amended; the Alabama Environmental Management Act (AEMA), Code of

Alabama, 1975; the Coastal Zone Act Re-authorization Amendment (CZARA); and the Alabama AFO/CAFO Rule-by-Registration [ADEM Administrative Code, Chapter 335-6-7 (1999)].

The non-regulatory (voluntary) approach includes educational outreach and training, technical assistance, technology transfer, and traditional federal and state cost-share assistance programs and incentives.

Consistent and uniformly applied state and federal regulations to target “bad actors” and preventing “backsliding” will usually bolster voluntary compliance and management measure implementation. However, the ADEM is limited by resources and staff and generally relies on citizen complaints to target potential violations. The Code of Alabama (1975) provides ADEM authority under which it can require clean up when discharges and other activities contribute to water quality degradation. If the voluntary approach (i.e., the carrot) fails, the “stick” (i.e. compliance inspections and enforcement) is available to make sure problems are appropriately addressed.

7. OUTCOMES ASSESSMENT PROCESS

According to the 2007 NPS Management Program Report, “Fiscal Year 2007 proved to be another successful year for Alabama’s TMDL Program.” Figure 2 shows total nutrient and sediment load reductions in the state, based on estimates from 15 projects.

In the past few years, ADEM has provided technical resources, financial assistance, and oversight to the various Clean Water Partnerships to complete the development of RBMPs for all major river basins in the state (Figure 1). ADEM is currently working with stakeholders in several watersheds to develop sub-basin management plans that incorporate EPA’s nine key elements of an effective management plan.

Several watershed restoration projects have been successfully completed in the last few years that include installation or application of best management practices (e.g., ponds, cross-fencing, pasture seeding, streambank stabilization, conservation tillage, etc.). The 2007 Report describes numerous watershed restoration projects, both completed and ongoing.

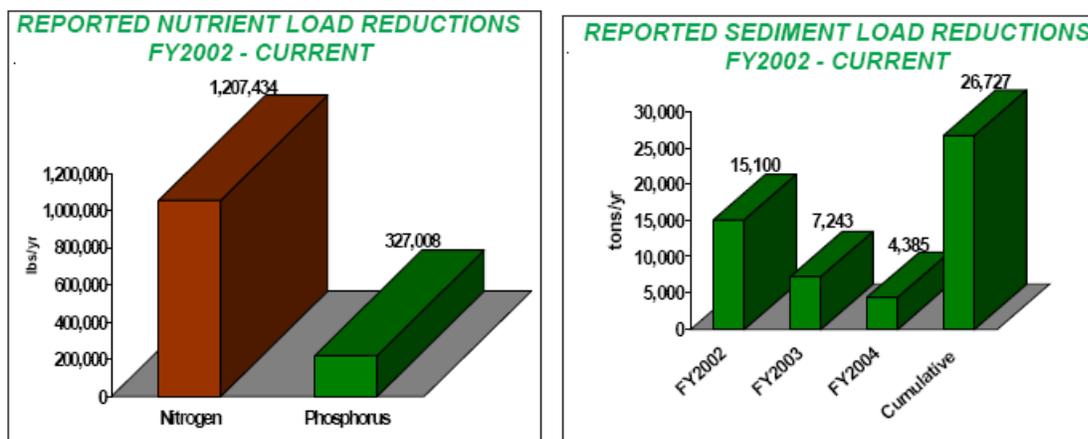


Figure 2. Total nutrient and sediment load reductions.

8. REFERENCES

Alabama Department of Conservation and Natural Resources. About us.
<http://www.dcnr.alabama.gov/about/>

Alabama Department of Economic and Community Affairs (ADECA). Drought Management Plan.
<http://www.adeca.alabama.gov/C12/Alabama%20Drought%20Management%20Pla/default.aspx>

ADECA Office of Water Resources.
<http://www.adeca.alabama.gov/Office%20of%20Water%20Resources/default.aspx>

Alabama Department of Environmental Management (ADEM). Basin Management Plans.
http://www.adem.alabama.gov/Education%20Div/Nonpoint%20Program/WSNPSProgram.htm#Basin_Management_Plans

ADEM. Nonpoint Source Management Program.
<http://www.adem.alabama.gov/Education%20Div/Nonpoint%20Program/ManagePlan/WSNPSManPlan.htm>

ADEM, 2007. NPS Management Program Annual Report.
<http://www.adem.state.al.us/Education%20Div/Nonpoint%20Program/NPSReports/AnnualNPS2007-2.pdf>

Alabama Legislature. Code of Alabama.
<http://alisondb.legislature.state.al.us/acas/ACASLogin.asp>

Alabama Legislature. Senate Joint Resolution 28—“Creating the Alabama Permanent Joint Legislative Committee on Water Policy and Management.”
<http://www.alabamarivers.org/press-room/headlines/sjr28-water-resolution-1>

U.S. Environmental Protection Agency, 2003. Applying for and Administering CWA Section 319 Grants: A Guide for State Nonpoint Source Agencies.
<http://www.epa.gov/owow/nps/319/319stateguide-revised.pdf>

Potential State-Specific Interview Questions²

1. Is the summary herein an accurate representation of your published documentation?
2. Did the Committee recognize the need for systems-based or integrated water resources planning and management?
3. What is the current status of the Alabama Permanent Joint Legislative Committee on Water Policy and Management, and of the Alabama Water Management Plan? What are/were the Committee's recommendations to the Alabama Legislature (due 2009 regular session)? (Any and all information on this matter would be helpful.)
4. Do the Committee recommendations include climate change or sea-level rise, and ways to mitigate the associated negative effects?
5. Does ADECA have a strategic plan or will it develop one in the near future?
6. At what scale will water supply and demand, and population projections be made? At the river basin-scale like the River Basin Management Plans?
7. Since the Apalachicola-Chattahoochee-Flint Compact Agreement was dissolved in 2003, what has Alabama done to deal with water quality and water allocation issues between Georgia, Florida, and itself? Any there any pending court decisions or informal talks, etc? Who is responsible for these discussions and/or negotiations?
8. Does ADEM have a series of performance measures or other rubric to review the progress of the NPS Management Program? The 2007 NPS Management Program Report highlights many of the program's achievements. Are there any problematic areas, failures, or challenges that ADEM does not mention?
9. Has the state considered developing a comprehensive statewide plan? If not, what are the perceived challenges in developing such a plan?

² Representatives from the State of Alabama did not participate in an interview.