

Initial Report and Recommendations: Water Policy & Management for the State of Alabama



March 24, 2009

Permanent Joint Legislative Committee on
Water Policy and Management

Senator Kim Benefield, Chair
Representative Greg Canfield, Vice-Chair

Introduction

No resource, with the exception of the air we breathe, cuts across as many facets of human existence and activity as water. While water is fundamental to sustaining human life, our economy is also dependent upon water for agriculture, industry, transportation, recreation and power generation. Water is even a major determinant of property values. Humans and water are bound together just as humans are to land.

It is estimated that Alabama's 77,000 miles of rivers and streams flow at the rate of 33 trillion gallons per year.¹ In fact, 18% of all the surface water that flows in the lower 48 states flows in Alabama.² The groundwater supply in Alabama is even greater in volume than surface water, estimated at 550 trillion gallons of storage.³ Alabama's water resources are abundant, but not infinite. The recent extreme drought conditions across the state and the actions of neighboring states underscore the limitations of our water resources and the threats to its availability.

Development of a comprehensive water policy and management plan at the state level is a process that involves the participation of many stakeholders, the collection and organization of scientific data, careful consideration of existing policy and a reasoned view of water demand into the future. The Committee focused its first year of activity on learning the issues related to water in Alabama: how it is used, who is using it, what internal and external issues effect water as a resource and what public policy is currently in place to address water. The initial work during the first year of the Committee's existence has helped lay the foundation of knowledge needed to complete the task of formulating a workable state plan for water management over the coming months. The Committee was the beneficiary of many hours of dedicated assistance in this process from state agencies, trade associations, advocacy groups and interested individuals. We are deeply appreciative of this dedication.

Act No. 2008-164

¹ Geologic Survey of Alabama, Water Investigations Program, <http://www.gsa.alabama.gov>

² Encyclopedia of Alabama, Water, <http://www.encyclopediaofalabama.org/face/Article.jsp?id=h-1549>

³ Ibid.

Act No. 2008-164 was enacted by the Alabama Legislature during the 2008 Regular Session. The Act created the Alabama Permanent Joint Legislative Committee on Water Policy and Management. The purpose of this committee is to develop the Alabama Water Management Plan to recommend to the Governor and Legislature courses of action to address the long-term and short-term water resource challenges of the State.

Report Required

The Act requires that the committee submit its recommendations by the 15th legislative day of the 2009 Regular Session and by the 5th legislative day of each regular session thereafter. This Initial Report and Recommendations: Water Policy & Management is submitted to the Alabama Legislature in accordance with the requirements of Act 2008-164.

Composition of the Committee

The committee is composed of the following members: the Chair of the House Committee on Agriculture and Forestry; the Chair of the House Commerce Committee; the Chair of the Senate Committee on Agriculture, Conservation and Forestry; the Chair of the Senate Committee on Commerce, Transportation and Utilities; the Chair of the Senate Committee on Energy and Natural Resources; five additional members of the House and 4 additional members of the Senate for a total committee size of 14 legislators. As of the writing of this report the following are the legislative members of the committee:

Sen. Kim Benefield, Chair
Rep. Greg Canfield, Vice-Chair
Rep. Chad Fincher
Rep. Thomas E. Jackson
Rep. Richard J. Laird
Sen. Ted Little
Rep. A.J. McCampbell

Rep. Frank McDaniel
Rep. Jeff McLaughlin
Sen. Wendell Mitchell
Sen. Arthur Orr
Sen. Quinton T. Ross, Jr.
Sen. Harri Anne Smith
Senate Vacancy

In addition, the Commissioner of the Alabama Department of Agriculture and Industries, the Commissioner of the Department of Conservation and Natural Resources, the Division Chief of the Office of Water Resources of the Alabama Department of Economic and Community Affairs, the State Geologist, the Director of the Department of Environmental

Management and the Executive Director of the Choctawhatchee, Pea & Yellow Rivers Water Management Authority or their designees, serve as members of any advisory subcommittee.

Duties of the Committee

The Act charges the committee with the following duties:

- Making a continuous study of the state water supply and projected future needs and availability of the state water supply,
- Making recommendations for legislation and initiatives that create the necessary institutional and regulatory changes to accomplish the overall goals and objectives of developing the Alabama Water Management Plan in a manner that benefits the state's needs and protects the environment.

The Alabama Water Management Plan

Act 2008-164 stipulates that the Alabama Water Management Plan shall be designed with the following goals and objectives:

- The expansion of the availability of water needed to meet the State's current and future water needs via appropriate federal assistance and private sector participation in the development of strategies,
- The development of conservation programs through:
 - 1) Identification and promotion of proven water use management and conservation technologies,
 - 2) Identification and promotion of business and residential water use reduction opportunities,

- 3) Increasing the use of efficient water management products and sources through the state procurement process,
 - 4) Incorporating water efficiency and conservation into the design and operation of state facilities.
- Encouraging water management technologies and producers of water-efficient products to locate operations in Alabama.
 - Adopting incentives for the conservation of and prudent use of water resources in the State.

For each goal and objective the Alabama Water Management Plan is to include 1) an identification of actions already in process to effectively manage water usage in Alabama and 2) a prioritized list of recommended administrative actions required to further the purposes of effective water management.

Committee Activity

Organizational Meeting/Water Workshop

The first meeting of the Permanent Joint Legislative Committee on Water Policy and Management was held on June 16, 2008 at the Water Resources Center of Auburn University. Pursuant to Act 2008-164, the organizational meeting was conducted to select a Chair and Vice-Chair, Sen. Kim Benefield and Rep. Greg Canfield, respectively.

At this initial meeting of the Committee the Water Resources Center provided a Water Workshop from June 16 – 17, 2008. The Committee heard presentations, participated in discussions and viewed demonstrations during the Water Workshop on the following topics:

Overview of Water Topics and Key Concepts
Demonstration of Watersheds and Surface Water
Groundwater Concepts
Land Use, Growth & Development

Overview of Alabama Water-Related Organizations
Demonstration of Surface Water Management Practices at City of Auburn Park
Concepts and Goals of Water Policy Legislation
Roundtable Discussion to Explore Goals, Legislative Framework and Next Steps

Committee Findings:

Alabama's water laws are based on the Riparian Doctrine an English common-law doctrine that assumes water supplies are nearly inexhaustible and that all land owners have equal rights to use of water. Riparian right grants full access to all of the water in a body of surface water to be used until injury is caused to a downstream riparian right holder. Western U.S. states have water laws based on the Appropriation Doctrine which was first codified in Colorado and is a doctrine that creates rules for water use. Many states in the southeast are beginning to move to a blend of the two doctrines, often using a Regulated Riparian Doctrine for surface water and an Appropriation Doctrine for groundwater.

Economic Stakeholder Meeting

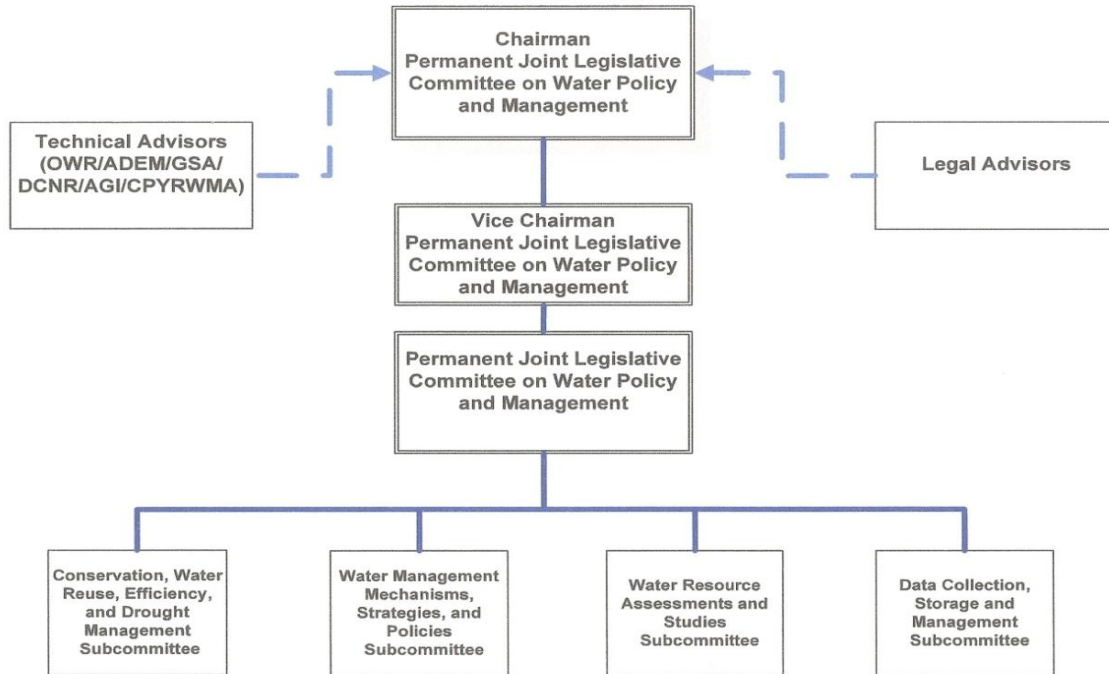
The second meeting of the Committee was conducted on July 28, 2008 at the State House in Montgomery. At this meeting the subcommittee structure and assignments were presented. An organizational chart for the committee/subcommittee structure is shown below.



Organizational Structure

June 12, 2008

Permanent Joint Legislative Committee on Water Policy and Management



The composition of the subcommittees was announced:

Conservation, Efficiency, Water Quality and Drought Management:

Rep. A.J. McCampbell, Chair. Sen. Harri Anne Smith and Rep. Thomas Jackson serve as legislative members.

Water Management Mechanisms, Strategies and Policies:

Rep. Jeff McLaughlin, Chair. Sen. Ted Little and Rep. Richard Laird serve as legislative members.

Agriculture, Transportation, Industry, and Recreation:

Sen. Wendell Mitchell, Chair and Rep. Chad Fincher, Vice-Chair. Sen. Quinton Ross and Rep. Frank McDaniel serve as legislative members.

Water Resource Assessments, Studies, Data Collection and Storage:

Sen. Arthur Orr, Chair. Sen. Parker Griffith served as a legislative member.

Each subcommittee was directed to begin organizing and accepting membership from both the public and private sectors.

In addition to the organization of the subcommittees, the purpose of the Economic Stakeholder Meeting was to receive presentations by agriculture and industry stakeholders regarding the relationship of water to the economy of Alabama. At this meeting presentations were made by:

Manufacture Alabama: Business & Industry

Birmingham Water Works: Water Utilities

Alabama Power: Power Generation

Coosa-Alabama River Improvement Association: Navigation

Alabama Farmers Federation: Agriculture

Committee Findings:

Industrial entities throughout the State depend on water in their processes. Low flow levels due to drought or upstream withdrawals can be costly to these industrial users of water. Low flow levels of navigable waterways threaten the cost-effective nature of water transportation of raw materials, finished product and machinery components. Low flow levels also threaten water quality and temperature as water is returned to the waterways under the terms of ADEM permits for these industrial users. Low flow rates also cause water temperature to rise and reduce the amount of water available to the cooling towers of nuclear power plants.

Public water authorities are seeking new sources of water as the population of the State continues to grow. The need for additional water sources places pressure on inter-basin transfers and groundwater aquifers. Reservoir water storage projects are costly, but remain viable options for segments of the State. Additionally, water authorities are incurring significant costs of treating all water as if it is to be used for human consumption even though a significant amount of treated water is used in applications that don't require

potable water, but rather, could utilize partially treated water known as gray water in applications.

Agriculture processes are highly dependent upon the State's natural rainfall and only a small percentage of farming operations utilize irrigation systems. The Federal Farm Bill is creating opportunities to expand the use of irrigation processes and has led to the Alabama Irrigation Initiative. Outdoor watering bans in 2000, 2001 and 2007 penalized agriculture. Effective broad-based water conservation practices for home-use and industry could reduce the pressure on agriculture during periods of drought.

Recreation, Environmental & Conservation Stakeholder Meeting

The third meeting of the Committee was conducted at Guntersville State Park to receive presentations from stakeholders regarding recreation, environmental and conservation water issues. At this meeting presentations were made by:

Alabama Department of Tourism: Water Tourism and Recreation
Charles Horn, former Chief of ADEM Water Division: Conservation
Alabama Association of Conservation Districts: Soil/Water Conservation
Pat Byington, Past Commissioner AL Environmental Mgt Commission: Environment

At this meeting reports were received from the Agriculture, Transportation, Industry and Recreation Subcommittee as well as the Conservation, Efficiency, Water Quality and Drought Management Subcommittee.

Committee Findings:

Fishing, paddling and wildlife watching recreational activities account for a significant and growing tourism segment in Alabama. The Alabama Scenic River Trail opened in 2008 and opens a water trail that runs from the Coosa River at the Alabama/Georgia border to the Gulf of Mexico which has garnered over \$1 million of exposure in *USA Today* and *The New York Times*.

Water conservation practices involving water reuse, also known as gray water, are not commonly used in Alabama. Water reuse conserves drinking water, reduces costs associated with treating water to make it potable and is environmentally responsible. The

drawbacks to water reuse involve regulatory requirements, infrastructure costs, public perception and energy costs. 28 states have water reuse regulations involving 480 utilities: 88% for irrigation, 11% for industrial uses and 1% for recharge purposes. The EPA recognizes and is currently encouraging conservation and water reuse.

States can use rebate programs to encourage citizens to make their homes more water efficient. A program piloted in Cobb County, GA, in cooperation with Home Depot and Lowes, issued fixture rebates and the program has been expanded into other states.

Public Agencies Meeting

Held at the State House in Montgomery, AL on November 3, 2008, this fourth and final meeting of the Committee in 2008 focused on the various State Agencies associated with water in Alabama. A report was also received from the Water Resource Assessments, Studies, Data Collection and Storage regarding its two meetings and pending recommendations. Presentations were provided by the following State Agencies:

Office of Water Resources at ADEM
Alabama Department of Environmental Management
Department of Environmental Management
State Climatologist

Committee Findings:

Based on population growth, periods of drought conditions, economic/industrial development and interstate pressures the competition for water resources will increase the need for effective water management policies. The process leading to development of sound management strategies requires inter-agency cooperation and coordination of water data. Partnerships with federal agencies such as the U.S. Geologic Survey will take on increasing importance to conduct watershed modeling and assessments. ADEM's responsibility for water quality in Alabama waters led to the sampling of over 2,000 locations since 2002 and the development of water quality mapping.

The issue of in-stream flow rates must be addressed to protect ecological integrity, the demand for human consumption and for industrial/transportation needs. The in-stream

flow issue must take into account: flow magnitude, frequency, timing, duration, rate of change and predictability.

Recommendations & Legislative Action

The Committee's work was conducted within the framework of four subcommittees and the aforementioned meetings of the entire Committee. Two initial recommendations involving a joint resolution and legislative action are advanced that focus on a framework required to continue to move the Alabama Water Management Plan forward. The recommendations and legislative action of the Committee are listed below:

From the Water Resource Assessments, Studies, Data Collection & Storage Subcommittee

SJR 5, sponsored by Sen. Arthur Orr was enacted in the first few days of the 2009 Regular Session. The Subcommittee offered numerous recommendations in this joint resolution. The recommendations included:

1. Establishing a Water Resources Technical Advisory Committee,
2. Establishing a Water Resources Data Repository,
3. Completion of the Statewide Surface and Ground Water Assessments,
4. Development of a Stream Gauging Network Plan,
5. Development of a Ground Water Monitoring Plan,
6. Enhancements to the Rainfall Monitoring Network,
7. Support of the Volunteer Alabama CoCoRaHS (Community Collaborative Rain, Hail and Snow) Network,
8. Coordination of Water Resource related data standards, and
9. Establishment of a web-based data portal.

From the Permanent Joint Legislative Committee on Water Policy &
Management

HB 118, sponsored by Rep. Terry Spicer recognizes the need to formulate state agency based planning for the coordinated development of Alabama's inland waterways. The Committee recommends that the Legislature adopt this legislation during the 2009 Regular Session.

Alabama has five commercially navigable waterways, all with access to the Port of Mobile.⁴ These five navigable waterways are the:

Alabama River

Apalachicola-Chattahoochee-Flint

Tennessee River

Tennessee-Tombigbee

Warrior-Tombigbee

Possessing 1,400 miles of navigable inland waterways, Alabama is second only to Louisiana for the most navigable miles in the nation.⁵ Transportation along these waterways represents great economic potential for the State, both in terms of the cost savings on highway infrastructure, but also for development opportunities along these navigable waterway corridors.

HB 118 authorizes the Alabama Department of Transportation to coordinate and plan for the development of transportation on Alabama inland waterways. It also establishes the Inland Waterway Transportation Fund to assist in developing infrastructure needs along the waterways.

One issue left to be resolved in HB 118 relates to how the Inland Waterway Transportation Fund is to be funded. The Committee recommends that this issue be addressed during the 2009 Regular Session so that HB 118 may receive widespread support in both Houses of the Legislature.

⁴ Presentation by the Coalition of Alabama Waterways Associations on 28Jul2008 to the Committee

⁵ Ibid.

Future Direction of the Committee

Over the next 12-18 months the Permanent Joint Legislative Committee on Water Policy and Management will build on the foundational knowledge developed during the initial twelve months of its work. As we progress in the effort to draft the Alabama Water Management Plan the Committee will concentrate on certain key issues. Among those issues to be explored are:

- Assessing the proper structure for a regionalized approach to water planning and management,
- Exploring the application and efficacy of the existing Riparian Doctrine as it relates to future water demand and availability,
- Create a statewide conservation policy and program that is sensitive to regional parameters in its application and is based on sound science principles,
- Explore water management technologies and develop appropriate legislative initiatives to support greater use of such technology, and
- Examine and recommend appropriate flow dynamics for rivers and streams to support the biological, recreational and industrial/transportation requirements.

These issues and others will be addressed in the development of the Alabama Water Management Plan. The Committee will continue to seek broad participation from state agencies and stakeholders as this process moves toward the completion of its initial task of creating a water management plan for all Alabamians.

Acknowledgements

The Permanent Joint Legislative Committee on Water Policy and Management would like to acknowledge the dedicated assistance provided by the following agencies and stakeholders, and without whose help we could not proceed.

State Agencies & Universities

ADECA, Office of Water Resources
Alabama Department of Agriculture and Industries
Alabama Department of Environmental Management
Alabama Tourism Department
Auburn University, Water Resources Center
Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority
Department of Conservation and Natural Resources
Geological Survey of Alabama
State of Alabama Soil and Water Conservation Committee
UAH, Earth System Science Center – State Climatologist
The University of Alabama, Environmental Institute
U.S. Geological Survey

Stakeholders

Alabama Association of Conservation Districts
Alabama Coal Association
Alabama Forestry Association
Alabama Gas Corporation
Alabama Power Company
Alabama Pulp and Paper Council
Alabama River Pulp Company, INC
Alabama Rivers Alliance
Alabama Scenic River Trail
Alabama Water Environment Association
Alabama Water Resource Association
Alabama Water Watch
Alabama Wildlife
Alfa Farmers Federation
Anniston Water Works and Sewer Board

Stakeholder (cont.)

Birmingham Botanical Gardens
Birmingham Water Works and Sewer Board
Balch and Bingham, LLP
Boise Paper
Ch2m

Coalbed Methane Association of Alabama
Coosa-Alabama Rivers Improvement Association
Earth Resource Systems, LLC
Goodwyn, Mills and Cawood, INC
Green Resource Center for Alabama
Huntsville Botanical Garden
Lake Martin Homeowners and Boat owners (HOBOS)
Lake Martin Resource Association
Lake Watch of Lake Martin
Lake Wedowee Property Owners' Association
Life on the Water Magazine
Manufacture Alabama
Maynard Cooper & Gale PC
Meadwestvaco
Mobile Area Water & Sewer System
Montgomery Water Works and Sanitary Sewer Board
Nelson Team Inc.
Sasser, Sefton, Connally, Tipton & Davis, P.C.
Save Our Saugahatchee
Southeast Rivers and Streams
Southern Environmental Law Center
Storm Water Management Authority, INC
Steve Bradley & Associates, LLC
Tennessee Valley River Association
Tri-Rivers Waterway Development Association
Warrior-Tombigbee Waterway Association
West Alabama Economic Development Authority