

ROADMAP FOR ALABAMA WATER RESOURCES MANAGEMENT PLAN

BACKGROUND AND OBJECTIVES

The Alabama Water Resources Commission (AWRC) and the ADECA Office of Water Resources (ADECA-OWR) submit the following Roadmap for development of a Water Resources Management Plan as directed by Governor Kay Ivey in her letter dated January 24, 2018 (Appendix C). The main points in the directive were to:

- Review the various AWAWG reports;
- Develop a roadmap to an Alabama Water Resources Management Plan with recommendations, next steps, timelines, and estimated, funding;
- Refer to findings of surface and groundwater assessments; and
- Ensure appropriate stakeholder input in the process.

The AWRC Water Resources Management Subcommittee and ADECA-OWR have held twelve public meetings and communicated with state agencies requesting their input regarding the Roadmap. Several members of the public submitted comments to the Subcommittee and ADECA-OWR. Additional information on specific meetings and the response to comments is included in Appendix D. There also have been two presentations by ADECA-OWR to the full AWRC to request its comments and input during this process. This Roadmap was approved by the AWRC at its meeting on November 28, 2018.

The AWRC and ADECA-OWR have found that the state currently has water management laws and policies administered across many of its agencies and local governmental entities and that better coordination of these laws and policies among the agencies should be the first step in building a comprehensive Water Resources Management Plan. The AWRC and ADECA-OWR have found that there is a substantial need for additional monitoring and reporting of the use of the State's water resources. These findings are substantiated by the work and reports of the AWAWG. The AWRC has confirmed that the ADECA-OWR and GSA water resource assessments indicate that there are no water use issues requiring immediate action.

The AWRC's and ADECA-OWR's basic objective is to use the State's existing water-related management mechanisms to the fullest extent possible to achieve a well-organized process for managing Alabama's valuable water resources. In some cases, existing laws and policies may need to be refined as part of the continuing water management planning process. To meet the goal of achieving a Water Resources Management Plan by July 1, 2020, the AWRC and ADECA-OWR have prepared a proposed Water Resources Management Plan framework (Appendix A) that will serve as a pathway to the Plan.

RECOMMENDED EXECUTIVE ACTIONS

Water Resources Management Plan – The AWRC recommends that the Governor direct executive-branch agencies and state boards, including the ADECA-OWR, ADEM, ADCNR, Ag. & Ind., GSA, SWCC, and the State Climatologist to work toward preparing a Water Resources Management Plan by July 1, 2020. This would be the compilation of the State's existing laws and policies into one comprehensive document. This document will specifically address compliance and enforcement provisions.

This effort would be led by ADECA-OWR under authority granted in Alabama Code §9-10B-10 and directed by the AWRC. Any issues identified requiring additional executive or legislative actions will be submitted to the Governor for future consideration after preparation of the Plan.

Agency Data Management Coordination – The AWRC recommends that the Governor direct the agencies to develop a comprehensive water resource monitoring network and technical implementation plan regarding water quantity and quality in the State of Alabama. Their efforts will document existing and investigate new tools and technologies for enhancing the State's understanding, management, sharing, and identification of issues regarding the State's water resources. The technology implementation plan will describe where these tools and technologies already are being used most successfully and how to leverage this success across agencies.

FUNDING

Current Funding – In the past and in the current FY19 General Fund budget, funds were provided as a line item in GSA’s annual appropriations for funding GSA and ADECA-OWR to conduct statewide groundwater and surface water assessments. To continue and enhance this successful program, which enables these agencies to monitor and assess the state’s water resources and provide data that further strengthens the technical basis needed for water management, we recommend continued funding in this manner for these assessment processes and further recommend a funding level of \$1,000,000 in the FY20 General Fund budget for this effort. This funding is included in GSA’s FY20 budget request.

New Funding- Additional funding has been identified for the next three years to implement the actions described in this Roadmap. Based on inputs from the state agencies, funding priorities were identified for the Governor’s FY20 statewide budget and for the following two years. These priorities total: \$2,056,000 in FY20, \$1,747,000 in FY21, \$2,098,000 in FY22 and are detailed below.

- **Water Resources Management Plan Development Support** - We are recommending \$200,000 in the FY20 statewide budget; \$200,000 in the FY21 budget; and \$200,000 in the FY22 budget
- **Increasing surface water flow gages** – We are recommending \$225,000 in the FY20 statewide budget; \$450,000 in the FY21 budget; and \$675,000 in the FY22 budget.
- **Increasing surface water quality monitoring** – We are recommending \$126,000 in the FY20 statewide budget; \$252,000 in the FY21 budget; \$378,000 in the FY22 budget.
- **Increasing groundwater-use monitoring** – We are recommending \$250,000 in the FY20 statewide budget; \$250,000 in the FY21 budget; and \$250,000 in the FY22 budget.
- **Establishing precipitation monitoring** – We are recommending \$525,000 in the FY20 statewide budget; \$200,000 in the FY21 budget; and \$200,000 in the FY22 budget.
- **Enhancing ADECA-OWR’s ability to track statewide water usage** – We are recommending \$655,000 in the FY20 statewide budget; \$145,000 in the FY21 budget; and \$145,000 in the FY22 budget.
- **Implementation of measures to improve the ability to exchange data between agencies** – We are recommending \$250,000 in the FY20 statewide budget; \$250,000 in the FY21 budget; and \$250,000 in the FY22 budget.

The AWRC recommends that the additional funding recommended and listed above, be consolidated into ADECA-OWR’s annual budgets and distributed to the participating agencies through inter-agency agreements. The funding status and expenditures will be included in an annual update to the AWRC to ensure that the funds expended produce tangible data, information, and reports. Additional information on funding requests is contained in both Appendix A and B.

NEW POLICIES – The AWRC and ADECA-OWR have identified issues (see Appendix A) where AWRC through ADECA-OWR, working with the designated agencies, will assemble scientific data and information regarding these issue areas and determine if they are impacting water resources management and make recommendations for addressing them. As part of the review conducted to date, ADECA-OWR has initiated an evaluation of various tools and methodologies to assess several of the issues identified in Appendix A.

MANDATORY REVIEWS – Once the Water Resources Management Plan has been completed, a schedule of review will be implemented. ADECA-OWR and the Subcommittee will update the AWRC annually and allow input from the public. Initially, a formal review of the Plan is recommended every five years to monitor performance and compliance with its objectives. In the annual reviews and the formal review, any issues requiring executive actions or legislation will be recommended by the AWRC to the Governor.

LEGISLATIVE ACTIONS – Currently, AWRC and ADECA-OWR do not see a need for new legislation.

EDUCATION AND OUTREACH – The AWRC will develop a detailed plan to ensure adequate public input into the process and education programs regarding water management.

CONCLUSION – AWRC and ADECA respectfully present this Roadmap and attached Appendices for the Alabama Water Resources Management Plan for Governor Ivey’s approval and further action. The Appendices provide additional details and information necessary to enable the AWRC and ADECA-OWR to begin the development of a Water Resources Management Plan for the State of Alabama in response to the Governor’s directive.

ADECA Office of Water Resources

J. Brian Atkins, Division Chief

Date

Alabama Water Resources Commission

Buddy Morgan, Commission Chair

Date

Alabama Department of Economic and Community Affairs

Kenneth W. Boswell, Director

Date

DRAFT

Nov 21, 2018

APPENDICES

Alabama Water
Resources
Management
Plan Roadmap
Appendices

Appendices

Appendix A – Proposed Alabama Water Resources Management Plan Framework

Appendix B – Additional Funding Needs for FY20 – FY22

Appendix C – Governor Ivey Tasking letter, January 24, 2018

Appendix D – AWRC Water Resources Management Subcommittee – Activity Summary

APPENDIX A

Proposed
Alabama Water
Resources
Management
Plan Framework

Appendix A Proposed Alabama Water Resources Management Plan Framework

Table of Contents

PROPOSED ALABAMA WATER RESOURCES MANAGEMENT PLAN	3
I. EXECUTIVE SUMMARY	3
A. Role of the AWRC and the Alabama Office of Water Resources	3
B. Timeline for Plan Development	4
II. INTRODUCTION	4
III. LAWS AND REGULATORY AUTHORITIES	6
A. Summary of Authority of AWRC	7
B. Summary of Authority of ADECA-OWR	8
C. Summary of Authority of ADEM	9
D. Summary of Authority of GSA.....	9
E. Summary of Authority of ADCNR.....	9
F. Summary of Authority of the Alabama Office of State Climatologist	10
G. Summary of Authority of SWCC.....	10
H. Summary of Authority of the Alabama Drought Assessment and Planning Team (ADAPT) ...	10
I. Summary of Authority of Federal Agencies	10
J. Summary of Authority of Alabama Power Company.....	10
K. Summary of Authority of PowerSouth	10
L. Summary of Authority of Choctawhatchee Pea and Yellow Rivers Watershed Management Authority.....	10
M. Summary of Authority of Public Water Systems.....	10
IV. ENHANCED DATA SHARING	10
A. Agency Collaboration	11
B. Data Sharing and Information Exchange	11
C. Funding Requirements	11
V. WATER USE, AVAILABILITY, AND RESOURCE ASSESSMENTS	12
A. Surface Water Assessments.....	12
B. Groundwater Assessments	13
C. Funding Requirements	13
D. Increased Surface Water Gaging Network	14
E. Increased Surface Water Quality Monitoring	14
F. Increased Groundwater-Use Monitoring	14

Appendix A
Proposed Alabama Water Resources Management Plan Framework

G. Establish Precipitation Monitoring 14

H. Improve ADECA-OWR’s Ability to Track Statewide Water Usage 15

VI. DROUGHT MANAGEMENT 17

VII. WATER RESOURCE MANAGEMENT ISSUES 17

VIII. FUTURE FORECASTS 18

IX. PLAN REVIEW AND REVISION PROCESS 19

X. PUBLIC EDUCATION AND OUTREACH 19

 A. Initial – Plan and Tool Development 20

 B. Ongoing – Implementation 20

 C. Ongoing – Monitoring and Update 20

Appendix A
Proposed Alabama Water Resources Management Plan Framework

PROPOSED ALABAMA WATER RESOURCES MANAGEMENT PLAN

I. EXECUTIVE SUMMARY

The purpose of this document is to provide guidance for implementing the *Roadmap for Alabama Water Resources Management Plan (Roadmap)* prepared by the Alabama Water Resources Commission (AWRC) and the Alabama Department of Economic and Community Affairs' Office of Water Resources (ADECA-OWR.) This document also serves as a starting point for the development of the Water Resources Management Plan pursuant to the proposed directive from Governor Ivey as set forth in the Roadmap.

The objectives for this framework document are associated with the *Roadmap* document and include:

- Developing a comprehensive Alabama Water Resources Management Plan (Plan);
- Continuing the water assessments currently performed by ADECA-OWR and the Geological Survey of Alabama (GSA);
- Implementing an enhanced monitoring program;
- Increasing collaboration and data sharing between Alabama water agencies.

This Plan Framework document lays out background information, the basic components of AWRC's proposed Roadmap objectives (bullets above), the proposed schedule for completion, estimated funding needs, and a stakeholder education/outreach strategy.

This Plan and framework is a proposed document in recognition of many steps remaining to develop the first Plan by July of 2020. This document is not intended to be all inclusive of issues to be addressed in a final Plan.

A. Role of the AWRC and the Alabama Office of Water Resources

The development of this Plan and future revisions will be led by ADECA-OWR under the authority granted in Alabama Code §9-10B-10 and directed by the AWRC.

ADECA-OWR will lead the development of the Plan and will establish a technical committee pursuant to § 9-10B-10 of the Alabama Water Resources Act (1975 Code of Alabama) to work together in developing the Plan. ADECA-OWR will need funding to implement activities required in planning, organizing, directing, researching, facilitating, and completing the Plan and other programs identified in the Roadmap. These activities include

Appendix A

Proposed Alabama Water Resources Management Plan Framework

legal support, technical support, web-page development, and expenses associated with work for developing the Plan.

The funding needed for these outside services and expenses is \$200,000 per year for FY20, FY21, and FY22 for a total of \$600,000.

B. Timeline for Plan Development

Governor Ivey requested a Roadmap by January 1, 2019 in order to consider funding for the next fiscal year. The timelines are based on this schedule and assumptions regarding the Roadmap submittal, Governor Ivey review, and ultimate approval of the Roadmap and this Plan framework document. The schedule below depicts these timelines. The AWRC and ADECA-OWR has based the schedule for completing the Plan on an alignment with the state's fiscal year timeline that will have the Plan completed and submitted to the Governor by July 1, 2020.

The timeline for accomplishing this Roadmap's objectives will depend on supplemental funding being provided in the FY20 General Fund budget and beyond.

Based on the review of the proposed scope and development process for the Plan, it is projected that the work will be divided into the following work elements:

- Plan Research and Analysis
- Plan Development
- Education and Outreach
- Plan Publication

The Plan will include a list of proposed implementation actions and a timeline will be prepared for those Plan actions.

II. INTRODUCTION

In a January 24, 2018 letter, Governor Kay Ivey tasked the AWRC and ADECA-OWR with the development of a Roadmap for developing a Water Resources Management Plan for the State of Alabama. The Roadmap was to be submitted to Governor Ivey by January 1, 2019.

Specifically, Governor Ivey's direction was:

"The various reports and information developed under AWAAG provide valuable information, and I am directing ADECA-OWR and AWRC to review the various AWAAG reports and develop a

Appendix A

Proposed Alabama Water Resources Management Plan Framework

roadmap that includes recommendations on next steps, proposed timelines and estimated funding needs to produce a water management plan. I ask that you include and refer to the findings of the water resource assessments completed by OWR and the Geological Survey of Alabama as part of your review. Finally, the roadmap should also ensure there is appropriate stakeholder input throughout the water management plan development process."

The Alabama Water Agencies Working Group (AWAWG) was established in 2012 and developed substantial materials and extensive stakeholder input that will serve as a resource for the Water Resources Management Plan effort directed by Governor Ivey to improve and enhance Alabama's water resources management efforts. On August 1, 2012, the AWAWG submitted a report outlining major water resource issues in Alabama. It was comprised of the following agencies: ADECA-OWR, the Alabama Department of Environmental Management (ADEM), the Alabama Department of Conservation and Natural Resources (ADCNR), the Alabama Department of Agriculture and Industries (Ag & Ind), the Geological Survey of Alabama (GSA), and the Alabama State Climatologist.

As a result of previous efforts by the AWRC, an initial vision and set of guiding principles have been developed and will serve as the starting point.

Vision

It is the vision of the State of Alabama that all individuals and agricultural, commercial, and industrial activities will have the water that is needed both now and in the future for beneficial purposes without impairing the natural living resources of the State or future quality of life in Alabama. The general welfare of the people of the State and sustained economic development is dependent upon the beneficial use of our water resources to their fullest extent. In order to achieve this vision, we should promote the following principles for management of all of Alabama's water resources.

Water Resources Management Principles

- There is a fundamental need to provide significant additional State funding for data collection, water assessments, and development and implementation of statutory mandates including statewide water management planning and education.
- There needs to be a comprehensive education and outreach process to ensure that Alabama citizens have a better understanding of the importance of water resources management for the State.
- Water should be managed in consideration of hydrologic boundaries while recognizing existing political boundaries and legal entities.
- Water management policies should be based on sound science.
- Drought planning should be proactive and reflect local input and involvement on how any necessary water restrictions will be determined and imposed.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

- Floodplain planning and management should be a coordinated activity between state and local officials to reduce the loss of life and property, minimize suffering and disruption caused by disaster, and better prepare for the consequences of flooding and other hazards.
- Management of surface and groundwater quantity and quality should be closely coordinated.
- Water management decisions should be delegated to the most local levels of government with appropriate State guidance on issues such as instream flow levels, interbasin transfer policies, regional infrastructure development incentives, etc.
- Alabama should be sensitive to involvement of entities external to state jurisdiction in water policy and take proactive measures to ensure state sovereignty in the management decisions affecting its water resources.
- The process of water resources planning involves dynamic factors and any policies and plans should have a periodic review component.

This introductory section will also present the prioritized recommendations from the AWRC's Roadmap which include:

1. Development of an initial Alabama Water Resources Management Plan which defines current water resources management capabilities, including existing laws, regulations, rules, policies, and agency authorities;
2. Continuation of the surface water and groundwater assessments being performed by ADECA-OWR and GSA;
3. Expansion of monitoring capability and commensurate funding required;
4. Assessment of needs and recommendations to enhance data management and sharing between state agencies; and
5. Assessment of current enforcement mechanisms.

Other issues identified in Section VII below will be reviewed for their impact on the State's water resources and the need for further action, if any, identified.

III. LAWS AND REGULATORY AUTHORITIES

This section will contain a description of the current laws, regulations, programs, and policies for the management of water resources to include agency programs and responsibilities currently in place. These descriptions will include water resources management responsibilities associated with ADECA-OWR, the Alabama Department of Environmental Management (ADEM), the Alabama Department of Conservation and Natural Resources (ADCNR), the Alabama Department of Agriculture and Industries (Ag & Ind), the Geological Survey of Alabama (GSA), the Alabama Soil and Water Conservation Committee (SWCC), and the State Climatologist. Specific enforcement authority will be

Appendix A

Proposed Alabama Water Resources Management Plan Framework

delineated for each agency as appropriate. This section will also include other organizations and authorities involved in the management of the waters of the state.

A matrix will be developed to present the water resources management-related agencies above and their relevant water-related roles, responsibilities, authorities, and accountabilities. The matrix will be used in this section to indicate the interdependency between the State's agencies and their relevance to water resources management in the State.

A. Summary of Authority of AWRC

The Alabama Water Resources Act (Act) established the ADECA-OWR and the AWRC. The Act vested ADECA-OWR and AWRC with the power and responsibility to develop plans and strategies for the management of the waters of the state, as well as the other goals and policies of the Act. (§ 9-10B-2-(5), Alabama Code of 1975)

The AWRC, as the statutory body charged with advisory oversight for water resources policy and management in Alabama, will assist ADECA-OWR throughout the process. As set out in the Act, the AWRC has the following duties which are relevant to the implementation of the *Roadmap* and this framework document (§ 9-10B-16, Code of Alabama 1975):

- (1) To advise the Governor and the presiding officers of the Senate and House, as necessary or as requested, on all matters related to the waters of the state as provided in this chapter;
- (2) To provide guidance to the director and the division chief on all matters within the commission's scope of authority;
- (3) To advise in the formulation of policies, plans, and programs of the Office of Water Resources in the performance of its functions and duties;
- (4) To establish, adopt, promulgate, modify, repeal, and suspend any rules or regulations authorized pursuant to this chapter which may be applicable to the state as a whole or any of its geographical parts and to consider the adoption of any rule or regulation recommended by the division chief; and
- (5) To advise the Office of Water Resources to implement policies, plans, and programs governing the waters of the state.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

B. Summary of Authority of ADECA-OWR

The Act established the ADECA-OWR and vested the office with powers associated with the management of the State's water resources. The specific sections of the Act (§ 9-10B-5, Alabama Code of 1975) relevant to implementing the AWRC Roadmap and this framework document include:

- § 9-10B-5 (1) To develop long-term strategic plans for the use of the waters of the state by conducting and participating in water resource studies and by administering the laws established by this chapter and regulations promulgated hereunder;
- § 9-10B-5 (2) Acting through the commission, to adopt and promulgate rules, regulations, and standards for the purposes of this chapter, and to develop policy for the state regarding the waters of the state;
- § 9-10B-5 (3) To implement quantitative water resource programs and projects for the coordination, conservation, development, management, use, and understanding of the waters of the state;
- § 9-10B-5 (4) To serve as a repository for data regarding the waters of the state;
- § 9-10B-5 (5) To, at its discretion, study, analyze, and evaluate in coordination with, or with the assistance of, other agencies of the state, the federal government, any other state, or any person the uses of the waters of the state, including, without limitation, the diversion, withdrawal, or consumption of such waters, and to prepare comprehensive plans, programs, and policies to encourage or require, where expressly authorized by this chapter, the efficient use of the waters of the state;
- § 9-10B-5 (6) To participate on behalf of the state in discussions between or among the state, any federal officer, department, or agency, any other state, or any person concerning the waters of the state; floods, droughts, and other hydrologic events involving the waters of the state; and water conservation programs;
- § 9-10B-5 (12) To monitor, coordinate, and manage the waters of the state as provided in this chapter. The Office of Water Resources shall make every effort to accept copies of reports submitted pursuant to rules or regulations of the federal government or another agency of the state;
- § 9-10B-5 (13) To sponsor, encourage, and facilitate plans, projects, policies, and programs for the conservation, coordination, protection, development, and management of the waters of the state;
- § 9-10B-5 (14) To, at its discretion, undertake or participate in studies, surveys, analyses, or investigations of water resources to include, but not limited to, the following: single, multi-purpose, comprehensive, local, county, regional, state, multi-state, national, federal, interstate, intrastate, ground, subsurface, recharge area, surface, watershed, drainage area, sub-basin, basin, stream, corridor, river, reservoir, impoundment, navigation, potable water, water supply, conservation, flood, drought, recreation, hydropower, water availability, water demand, and other

Appendix A

Proposed Alabama Water Resources Management Plan Framework

water resource studies; provided, however, that the Office of Water Resources' failure to undertake or participate in any such studies, surveys, analyses, or investigations shall not affect the validity thereof.

- § 9-10B-5 (15) To conduct a program of education and public enlightenment with respect to the waters of the state;
- § 9-10B-5 (16) To make an annual report to the Governor and the presiding officers of the House and Senate through the department concerning the activities and accomplishments of the Office of Water Resources for the preceding fiscal year;
- § 9-10B-5 (20) To request such assistance from any other agency of this state as may be reasonable and necessary to carry out the purposes of this chapter. All state agencies, departments, institutions, and political subdivisions are hereby empowered and authorized to make available to the Office of Water Resources such reasonable assistance and information as the office may request in carrying out the intentions and purposes of this chapter;
- § 9-10B-5 (21) To recommend to the Legislature such legislation as may be needed to coordinate, protect, conserve, develop, and manage the waters of the state; and
- § 9-10B-5 (22) To perform any other duty or take any other action necessary for the implementation and enforcement of this chapter.

In addition, the Act also provides a provision for enforcement under §9-10B-23 for the AWRC to work jointly with ADEM in the enforcement of all rules and regulations adopted by the AWRC.

C. Summary of Authority of ADEM

ADEM will provide a summary during the preparation of the Plan.

D. Summary of Authority of GSA

GSA will provide a summary during the preparation of the Plan.

E. Summary of Authority of ADCNR

ADCNR will provide a summary during the preparation of the Plan.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

F. Summary of Authority of the Alabama Office of State Climatologist

The Office of State Climatologist will provide a summary during the preparation of the Plan.

G. Summary of Authority of SWCC

The SWCC will provide a summary during the preparation of the Plan.

H. Summary of Authority of the Alabama Drought Assessment and Planning Team (ADAPT)

I. Summary of Authority of Federal Agencies

1. US Army Corps of Engineers
2. Environmental Protection Agency
3. Fish and Wildlife Service
4. Federal Energy Regulatory Authority
5. Tennessee Valley Authority

J. Summary of Authority of Alabama Power Company

K. Summary of Authority of PowerSouth

L. Summary of Authority of Choctawhatchee Pea and Yellow Rivers Watershed Management Authority

M. Summary of Authority of Public Water Systems

IV. ENHANCED DATA SHARING

A key to successfully managing the State's valuable water resources effectively is increased collaboration and data sharing among all the State agencies with responsibilities associated with water resources management. State agencies with water management responsibilities

Appendix A

Proposed Alabama Water Resources Management Plan Framework

need to share water quantity and quality data/information with one another in order to improve the efficiency and effectiveness of fulfilling their water-related missions.

A. Agency Collaboration

There is power in collaboration and one way of overcoming water resources management challenges is through partnership – in unanticipated ways – between the state agencies responsible for the management of Alabama’s water resources. Today’s changing environment requires mutually beneficial partnerships to leverage creativity, experience, and resources to arrive at a solution in less time. By using partnerships between agencies and collaborating externally, they will be able to innovate much more quickly and even create solutions to problems that may not be prevalent issues yet.

Using the structure of developing the Plan, ADECA-OWR will work with the other state agencies to develop a mechanism for formal collaboration. This will be documented in a plan that will describe this formal process and include topics such as agency interaction, decision-making, sharing data, and information exchange.

B. Data Sharing and Information Exchange

ADECA-OWR will lead the agency group in working together to identify existing and new tools and technologies for enhancing the State’s understanding, management, and identification of issues associated with the State’s water resources. A technology implementation plan will be developed to describe where these technologies already exist or are being used most successfully among the group and to develop a way to leverage this success across the other agencies most effectively and efficiently. The agencies will identify existing technologies and tools used by each agency to ensure compliance with and implementation of current policies and laws. The group will also identify needed improvements and report these needs to the AWRC and ultimately the Governor.

C. Funding Requirements

In order to achieve this needed collaborative environment between agencies and allow the effective sharing of data and information, AWRC recommends that new funding be provided as a part of the Roadmap and the Plan including an additional \$75,000 for FY20 and \$250,000 for both FY21 and FY22 in the General Fund budgets.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

V. WATER USE, AVAILABILITY, AND RESOURCE ASSESSMENTS

This section will provide a discussion of current groundwater and surface water availability and water uses and demands (both withdrawals and net consumption) at various spatial scales.

The ADECA-OWR and GSA have completed baseline water resources assessments on surface and groundwater, respectively, and assessment and monitoring activities are ongoing. As stated in the Roadmap, AWRC identified the need to continue with these water resources assessments and to build on the work completed to date in order to monitor and assess the state's water resources and provide data that further strengthens the technical basis needed for water management. This work has successfully progressed under authorization in the General Fund appropriations to GSA and subsequent annual interagency agreements between GSA and ADECA-OWR, resulting in a comprehensive, cooperative program. AWRC recommends the continued funding and performance of the surface water and groundwater assessments in this manner.

A. Surface Water Assessments

ADECA-OWR recently completed the *"2017 Alabama Surface Water Assessment Report."* This report provided a comprehensive summary of water withdrawals and net consumption for each of the State's 53 water sub-basins, statistical summaries of statewide stream flows, and comparative analysis of consumption and streamflow at the sub-basin level.

The results of the ADECA-OWR water assessment analysis showed that, for a very large part of the state, consumptive use is equal to a very low percentage of streamflow and considerable increases in consumptive use can be sustained. The report also noted that factors affecting water availability may also be related to limitations of the existing local or regional water supply systems that include reservoirs, wells, pipelines, as well as the suitability of the water for its intended use.

ADECA-OWR's water assessment analysis underscored the need for continued funding support to conduct water withdrawal and consumption assessments using data and information from the ADECA-OWR Alabama Water Use Reporting Program (AWURP). The AWURP has been the state's most comprehensive data repository for water use information since 1993. The data ADECA-OWR collects under AWURP is vital to the ability to connect the results of both the surface and groundwater capacity assessments with the ability to quantify the ability of individual sub-basins to meet the current and future demands placed upon them.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

B. Groundwater Assessments

In March 2018, the GSA completed the “*Assessment of Groundwater Resources in Alabama, 2010-16*” evaluation. From 2010 to 2016 the Groundwater Assessment Program of the GSA conducted this evaluation of Alabama’s groundwater resources to provide a better understanding of current and future groundwater conditions, including groundwater availability and storage estimates in selected aquifers. This program provided valuable information for locating and developing groundwater resources for the following uses:

- Agricultural development initiatives;
- Economic development initiatives;
- Development of sustainable groundwater management practices; and
- Evaluating future impacts to groundwater resources from drought, water use, and climate change.

Through this project, GSA determined current groundwater conditions for a significant portion of the aquifers and delineated areas of possible future concern with respect to water levels. Current groundwater conditions were assessed by measuring levels for 2,448 wells in major and minor aquifers.

The GSA’s groundwater assessment program has underscored the need for continued funding for assessment and monitoring of groundwater conditions and aquifer levels and expansion of activities to provide groundwater availability and flow models and to develop groundwater budgets (availability, withdrawal and use, recharge, storage, projected future needs, etc.), prioritizing areas of high groundwater usage while working toward statewide coverage. Other planned activities include a systematic assessment of groundwater quality (outside of public water supply systems) for selected aquifers and an investigation of regional relationships between baseflow and groundwater pumping, among others.

C. Funding Requirements

In the past and in the current FY19 General Fund budget, funds were provided as a line-item in GSA’s annual appropriations for funding GSA and ADECA-OWR to conduct continued statewide groundwater and surface water assessments. To continue and enhance this successful program, which enables these agencies to monitor and assess the state’s water resources and provide data that further strengthens the technical basis needed for water management, we recommend continued funding for these assessments and further recommend a funding level of \$1,000,000 in the FY20 General Fund budget for this effort. This funding is included in GSA’s FY20 budget request.

One of the significant conclusions in the work performed by AWRC and ADECA-OWR is there is a need for additional data, information, and technology tools to identify water

Appendix A

Proposed Alabama Water Resources Management Plan Framework

resources issues across the state. The AWRC and ADECA-OWR identified the following areas where enhancements are necessary.

D. Increased Surface Water Gaging Network

A part of the enhanced monitoring program would be to increase the statewide flow gaging network to improve the ability to quantify Alabama's surface water resources. In partnership with the U.S. Geological Survey (USGS), ADEM has proposed an additional fourteen surface water gaging stations be installed per year.

This would result in an additional fourteen stations in FY20, an additional twenty-eight in FY21, and total of forty-two in FY22. The funding necessary to achieve this increased surface water gaging network would be \$225,000 as a supplement to the FY20 budget, \$450,000 in the FY21 budget, and \$675,000 in the FY22 budget for a total of \$1,350,000 over the three-year period.

E. Increased Surface Water Quality Monitoring

Water quality is related to water quantity and it is important to monitor surface water quality in conjunction with the surface water gaging stations. This will improve the ability to monitor surface water quality and the connection to quantity conditions statewide.

This increased monitoring would result in water quality at an additional fourteen stations in FY20, an additional twenty-eight in FY21, and total of forty-two in FY22. The funding necessary to achieve this increased water quality monitoring would be \$126,000 as a supplement to the FY20 budget, \$252,000 in the FY21 budget, and \$378,000 in the FY22 budget for a total of \$756,000 over the three-year period.

F. Increased Groundwater-Use Monitoring

In the statewide groundwater assessment conducted by GSA, it was recognized that knowledge of groundwater use in relation to agriculture and irrigation in the state is poor. In the assessment, they concluded that there is a need for increased monitoring of groundwater use across the state. Therefore, AWRC and ADECA-OWR included in the Roadmap enhanced monitoring of groundwater use and development of novel methodologies to model groundwater use, particularly in regard to agriculture and irrigation.

GSA has provided an estimated annual funding requirement of \$250,000 for each of FY20, FY21, and FY22.

G. Establish Precipitation Monitoring

A dense network of weather monitoring stations addresses several data needs vital to several of the state's priorities, each with their own set of state agencies that rely in one

Appendix A

Proposed Alabama Water Resources Management Plan Framework

way or another on weather information. Our current weather station coverage leaves some entire counties without real-time information on rainfall rates and amounts.

Knowing how much rain is falling is only one component of the water story. Other variables such as temperature, wind, soil/road conditions, visibility, lightning detection, etc. are part of completing the water story. Thus, with a complete weather station, the potential uses of the information rises exponentially.

Twenty years ago, the state climatologist estimated the state would need 1,400 stations to sample the weather every 10 km (6.2 miles). Given the current networks and their scattered locations, we estimate about 300 additional stations are needed to provide data about every 16 km (10 miles) which would be a significant improvement. The requested amount (\$925K) would provide for the purchase and installation of these first additional 300 stations (about \$3K per station for purchase, installation and 3-years operation and maintenance).

To generate the highest value for the lowest cost for the people of Alabama the State Climatologist and other interested parties, such as the University of South Alabama, are teaming with Baron's Critical Weather Institute (BCWI) of Huntsville AL, a non-profit 501(c)3, to provide state-wide weather information for every need we encounter.

Because much of our state is poorly monitored, we will embark on a program in partnership with BCWI to fill in the data-sparse regions as funds are identified so that every corner of Alabama will have real-time data to be used in every aspect for which weather information is sought. The new stations are being designed and tested by University of Alabama – Huntsville (UAH) and BCWI instrumentation scientists building off years of experience with meteorological field programs for which we have installed networks from Alabama to Australia to Argentina and more.

Our funding request covers the cost of weather station equipment and some maintenance while the heavy-lifting of communications, IT management, web-development, product testing, and development is borne by BCWI.

This new precipitation network would result in 300 new weather stations including operation and maintenance. The funding necessary to achieve this increased surface water gaging network would be \$525,000 as a supplement to the FY20 budget, \$200,000 in the FY21 budget, and \$200,000 in the FY22 budget for a total of \$925,000 over the three-year period.

H. Improve ADECA-OWR's Ability to Track Statewide Water Usage

During the next three-year period, there are three elements that comprise ADECA-OWR's ability to track statewide water usage. These are a replacement of ADECA-

Appendix A

Proposed Alabama Water Resources Management Plan Framework

OWR's eWater information technology system, SWCC's water efficiency program for agriculture, and the support required in the development of the Plan. A description of each of these items is provided below.

ADECA-OWR eWater Replacement

Tracking water usage and beneficial use types is critical to understanding the needs for water resources across the state. The Water Use Reporting Program was established to assist ADECA-OWR in monitoring this water usage statewide. ADECA-OWR has an outdated data management application (eWater) used to support the statewide Water Use Reporting Program. ADECA-OWR will replace the existing eWater program with a state-of-the-art information technology program to improve the statewide reporting, use, and analysis of water usage data and that allows the sharing of this data with state agencies and other stakeholders.

The funding necessary to replace eWater is \$475,000 in FY20, \$25,000 in FY21, and \$25,000 in FY22 for a total of \$525,000.

SWCC Water Efficiency Instrumentation

The Alabama Agriculture and Conservation Development Commission (AACDC) will provide an instrumentation program to assist agricultural producers with on-farm irrigation management. The budget request is for providing funds for a program to improve the effectiveness of water resources management in irrigation. This program would be done over the three-year budget period. This program will allow ADECA-OWR to work closely with SWCC to reach out to a large number of producers using irrigation to improve the ability to increase participation in obtaining Certificates of Use and tracking usage across the state.

In FY20, the AACDC will provide two portable instruments to twenty Soil and Water Conservation Districts (SWCDs) for loan to producers to assist with irrigation management for improved irrigation scheduling and efficiency. Forty portable instruments provided to SWCDs at a budget cost of \$2,000 each. Additionally, the AACDC will assist producers with the purchase of permanent on-farm instrumentation to improve on-farm irrigation management and efficiency for approximately 50 producers. Fifty instruments provided to producers at a budget cost of \$2,000 each. This will result in the need for \$180,000 in funds for FY20.

In FY21, the AACDC will provide ten local SWCDs with portable instruments and continue the cost-share program to assist an additional 50 producers. Sixty instruments provided at a budget cost of \$2,000 each. This results in a funding requirement of \$120,000 in FY21.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

In FY22, the AACDC will provide ten local SWCDs with portable instruments and continue the cost-share program to assist an additional 50 producers. Sixty instruments provided at a budget cost of \$2,000 each. Funding of \$120,000 will be needed for FY22.

Implementation of this irrigation water management program will be covered by current AACDC staff and will not require additional budget funds for this portion of the program.

VI. DROUGHT MANAGEMENT

This section will provide the basic structure for drought management in Alabama. The ADECA-OWR in conjunction with the Drought Subcommittee of the AWRC has developed a Drought Management Plan. The Plan has been reviewed every five years. The most review was completed this year. Each review includes the opportunity for public input and comment. Each review is coordinated with a review by ADAPT. The most review was approved by the AWRC at its meeting on November 28, 2018.

VII. WATER RESOURCE MANAGEMENT ISSUES

As part of the AWAWG process, and the AWRC's Roadmap work, several areas related to water resources management were identified and discussed. They were also identified as needing to be evaluated as part of a Water Resources Management Plan development process in the AWAWG 2013 Report. It is AWRC's and ADECA-OWR's view that many of these areas are subject to existing laws, regulations, rules, policies, guidelines, and other agency programs associated with the items listed in Section III above. As part of the Plan development process, the AWRC and the ADECA-OWR will review the considerable information that has been developed on each of these issues and determine appropriate courses of action including the need for any actions beyond the statutory scope of the AWRC or ADECA-OWR for the un-prioritized issue areas listed below:

- Riparian water law issues
- Interbasin transfers
- In-stream flow
- Agriculture irrigation
- Drought planning
- Water efficiency, conservation, and reuse

Appendix A

Proposed Alabama Water Resources Management Plan Framework

- Water resource development
- Coastal concerns (i.e. freshwater inflows, saltwater intrusion, estuaries)
- Interstate issues and coordination
- Education and outreach
- Support for economic development
- Interagency data sharing and coordination
 - streamflow gaging
 - groundwater monitoring
 - data coordination
- Water resources management operational issues
 - local/regional water management roles
 - data adequacy for decision making
 - need for better enforcement mechanism(s)
- Water resources assessment process
- Groundwater well location and placement
- Source water protection (both surface and groundwater)
- Safe Dams program (reservoirs used for water supply)
- Navigation

These subject areas will be described with the existing agency responsibilities, laws, regulations, rules, policies, guidelines, or other programs in this section.

VIII. FUTURE FORECASTS

This section will present information on projected future changes in water usage and the need for updating those forecasts with recommendations for funding in the FY20 – FY22 budget cycles.

Appendix A

Proposed Alabama Water Resources Management Plan Framework

IX. PLAN REVIEW AND REVISION PROCESS

ADECA-OWR recommends the following Plan approval process for adoption of this initial document by the AWRC. This process would include the following activities:

1. Completion of final draft Plan;
2. Legal review of final draft Plan;
3. AWRC Water Resources Management Subcommittee approval of final draft Plan;
4. AWRC approval of final draft Plan;
5. Issue final draft Plan for public comment;
6. AWRC Subcommittee review of stakeholder comments and submittal of the proposed final document;
7. Legal review of final Plan;
8. AWRC approval of final document; and
9. Approval of the final document by the Governor.

Following development of the first Plan, a systematic process of annual updates on implementation will be provided to the AWRC and a Comprehensive Review will be conducted every 5 years. The Plan will be revised to reflect the results of these reviews as needed. Plan revisions will follow a process similar to that outline above.

X. PUBLIC EDUCATION AND OUTREACH

In her January 24, 2018 letter, Governor Ivey directed ADECA-OWR and the AWRC to “ensure there is appropriate stakeholder input throughout the water management plan development process.” ADECA-OWR has investigated water management plans prepared by many other U.S. states. Based on the experience of states that have gone through the process of developing a water management plan, it is recognized that a key aspect of the success of the process is the incorporation of a stakeholder engagement process. Alabama’s AWAWG process involved many stakeholders and produced a diverse perspective to be used on completion of the Plan. As the Plan is being completed, an education and outreach strategy and public input method will be developed into an education and outreach plan. This education and outreach plan will be detailed and include a process which will comprise three specific phases:

Appendix A

Proposed Alabama Water Resources Management Plan Framework

A. Initial – Plan and Tool Development

This phase will be used to develop the detailed plan and implementation process and is envisioned to include development of a dedicated web site for sharing information and documents with the public. The web site is also intended to allow feedback to ADECA-OWR and other state agencies from stakeholders and the public.

In addition, this initial phase will also include the development of tools and preparation of presentations, articles, papers, and other materials to be used in a speaker forum and to be placed on the web site. These materials can be used by participating state agencies when talking to groups on water management in Alabama. {Public meetings, conferences, group presentations, etc.}

B. Ongoing – Implementation

This phase will be used to implement the detailed plan using the implementation process developed. It will provide a process for monitoring feedback from the web site and from stakeholders during engagement activities. Engagement activities during this phase will be to participate in local activities that engage with specific water interest groups.

C. Ongoing – Monitoring and Update

This phase will be concurrent with implementation to provide monitoring of input and feedback provided on the web site and provided during engagement activities with stakeholders. This feedback will be evaluated and used to periodically consider updates or modifications that should be considered for the Plan during the mandatory five-year review period. If more pressing input or feedback is received, this information will be evaluated for recommending to the AWRC for more immediate action.

APPENDIX B

Additional
Funding Needs
for FY2020 –
FY2022

Appendix B

Additional Funding Needs for FY20 – FY22

AWRC and ADECA-OWR, with the other agencies identified, have limited existing funding that can be used to implement the proposed Roadmap and this framework document. Limited funds have been included in past State budgets for water resources management planning and assessments as described in the Surface Water and Groundwater Assessment sections in Appendix A (Sections V A and B, respectively). These past funds need to be continued to allow continued surface water and groundwater resource assessments. However, to implement the Roadmap, the agencies have worked with AWRC to identify additional needed programs and funding to support the Roadmap. Preliminary work on these needed programs has been initiated in several instances to define their scope and actions required to accomplish them.

New Funding Needed

The Water Resources Management Subcommittee of the AWRC requested that each state agency provide input on recommended actions and funding. Requests totaling over \$17,000,000 were received. The Subcommittee reviewed the agency inputs with a focus on the Roadmap-identified priority areas that would lead to specific functional improvements in the most needed areas. To assist in understanding comprehensive needs, but recognizing the limitations in forecasting future funding environments, the time frame was limited to the next three fiscal years, FY20, FY21, and FY22. As a result, the recommended funding was prioritized for completing the Plan and the other objectives discussed in the Roadmap. The other objectives are sorted according to the following functional areas:

- Enhancing ADECA-OWR's ability to track statewide water usage;
- Implementation of measures to improve the ability to exchange data between agencies;
- Increasing surface-water flow gages;
- Increasing surface-water quality monitoring;
- Increasing groundwater monitoring; and
- Establishing precipitation monitoring.

The AWRC Subcommittee recommended additional funding amounts based on the priorities shown in Table 1. AWRC is requesting the Governor's consideration for including this amount in the FY20 General Fund budget. The estimates for the out-years (FY21 and FY22) will be updated as part of the Plan development process and then annually reviewed by the AWRC.

Appendix B Additional Funding Needs for FY20 – FY22

Table 1: AWRC Recommended Additional Funding Amounts by Priority Area

Functional Improvement Area	FY20 Budget	FY21 Budget	FY22 Budget	FY20-22 Total
	Requested Additional Funding	Requested Funding	Requested Funding	Totals
ADECA-OWR's Water Resources Management Plan Development Support	\$200,000	\$200,000	\$200,000	\$600,000
Enhancing ADECA-OWR's ability to track statewide water usage	\$655,000	\$145,000	\$145,000	\$945,000
Implementation of measures to improve the ability to exchange data between agencies	\$75,000	\$250,000	\$250,000	\$575,000
Increasing surface water flow gages	\$225,000	\$450,000	\$675,000	\$1,350,000
Increasing surface water quality monitoring	\$126,000	\$252,000	\$378,000	\$756,000
Increasing groundwater-use monitoring	\$250,000	\$250,000	\$250,000	\$750,000
Establishing precipitation monitoring	\$525,000	\$200,000	\$200,000	\$925,000
Totals	\$2,056,000	\$1,747,000	\$2,098,000	\$5,901,000

APPENDIX C

Governor Ivey
Letter of
January 24,
2018 to ADECA
Director
Kenneth
Boswell

Appendix C Governor Ivey Tasking Letter

OFFICE OF THE GOVERNOR

KAY IVEY
GOVERNOR



STATE CAPITOL
MONTGOMERY, ALABAMA 36130

(334) 242-7100
FAX: (334) 242-3282

STATE OF ALABAMA

January 24, 2018

Mr. Kenneth Boswell, Director
Alabama Department of Economic and Community Affairs
Alabama Center for Commerce
401 Adams Avenue
Montgomery, Alabama 36104

Dear Director Boswell:

Under the Alabama Water Resources Act, the Alabama Water Resources Commission (AWRC) is comprised of members appointed by the Governor, Lieutenant Governor, and the Speaker of the House who represent both specific areas of the state and individual water use sectors. They are charged with advising the Governor, the Legislature, the ADECA Director, and the Division Chief of the Alabama Office of Waters Resources (OWR) on "all matters regarding the waters of the state."

In my letter of November 1, 2017, to Dr. Nick Tew, State Geologist, I disbanded the Alabama Water Agencies Working Group (AWAWG) because the process under the Alabama Water Resources Act provides statutory guidance for any enhancements to water resources planning and management in Alabama to be facilitated by the AWRC. I also informed Dr. Tew that I would direct the ADECA Director and OWR to continue its efforts to update water-use and availability summaries for the state and to refine future water-use forecasts as needed.

The various reports and information developed under AWAWG provide valuable information, and I am directing ADECA-OWR and AWRC to review the various AWAWG reports and develop a roadmap that includes recommendations on next steps, proposed timelines and estimated funding needs to produce a water management plan. I ask that you include and refer to the findings of the water resource assessments completed by OWR and the Geological Survey of Alabama as part of your review. Finally, the roadmap should also ensure there is appropriate stakeholder input throughout the water management plan development process.

In order to request funding for next fiscal year, I ask that you provide a report back to me no later than January 1, 2019. I will consider a request for additional funding at that time.

Thank you for your services to the citizens of Alabama, and I look forward to your report.

Sincerely,

Handwritten signature of Kay Ivey in black ink.

Kay Ivey
Governor

KI/fm

APPENDIX D

AWRC Water
Resources
Management
Subcommittee
Activity
Summary

Appendix D

AWRC Water Resources Management Subcommittee Activity Summary

The Water Resources Management Subcommittee has been committed to an open and transparent process for the development of this Roadmap document. All meetings have been advertised on the Alabama Open Meetings website (<https://openmeetings.alabama.gov>) and open to the public. Opportunities for the public to make comments were also provided at every meeting. Table C-1 below contains a summary of all the meetings held to support this effort and the focus for each meeting.

Table C-1 – Summary of AWRC Water Resource Management Subcommittee Meetings

Subcommittee Meeting Summaries		
Dates	Meeting Location	Meeting Focus
2/27/2018	Montgomery	Overview of Governor Ivey's tasking letter and discussion of the Roadmap development process
3/29/2018	Montgomery	OWR provided an overview of AWAAG reports and continued discussion on process development
4/5/2018	Montgomery	Discussion of Plan components and process for collecting agency funding inputs
5/14/2018	Montgomery	Review of OWR agency discussions and discussion of need for some level of legal support to this process. Received GSA presentation on water management plan concepts and GSA's recently completed groundwater assessment
6/27/2018	Montgomery	Received presentations from Dr. John Christy, State Climatologist and from OWR summarizing the various state agency inputs that have been received to date
8/1/2018	Montgomery	Discussions focused on the Roadmap framework, an analysis of interbasin transfers, and concepts for public education and outreach
8/16/2018	Montgomery	Discussion on Roadmap framework in preparation of status update to the full AWRC later that day
8/29/2018	Montgomery	Decision to add SWCC to agency list and Roadmap document development
10/2/2018	Montgomery	Discussion of agency funding needs and Roadmap document development
10/30/2018	Montgomery	Roadmap document development and review.
11/13/2018	Montgomery	Roadmap and Appendices document development and discussion.
11/28/2018	Montgomery	Roadmap and Appendices document development and discussion.

Appendix D
AWRC Water Resources Management Subcommittee Activity Summary

Further, the Subcommittee actively solicited comments from the public with regard to this process. A summary of the comments received and the Subcommittee's response to each comment is provided in Table C-2 below.

Table C-2 – Summary of Comments Received and AWRC Response

Date	Submittal Type (Letter/Email)	Received From	General Aspect of Comments	AWRC Response to Comments
2/12/2018	Letter	AWWA (Jim Miller)	Policy input in support of municipal water systems	Support the concept of developing broad based state policies that provide maximum flexibility for our members to manage water resources at the local level. Our members, more than most, understand the value of water and the need to maintain sustainable oversight of its use
5/11/2018	Memo	ARA and SELC	Policy input in four areas: Instream flow, Drought Planning, Interbasin Transfers, and Certificates of Use	<p>Instream flow – AWRC had identified this as an issue to be reviewed as part of the water plan development process.</p> <p>Drought Planning – AWRC has worked with OWR to revise the Alabama Drought Management Plan which will fully align the Drought Act, drought regulations and the drought plan. In addition, there is a commitment to review the plan at least every five years.</p> <p>Interbasin Transfers - AWRC had identified this as an issue to be reviewed as part of the water plan development process.</p> <p>Certificates of Use - AWRC had identified this as an issue to be reviewed as part of the water plan development process.</p>
5/14/2018	Handout	GSA (Dr. Tew)	Inputs to framework	The AWRC has incorporated several aspects of the comments into Appendix A of this report. In addition, the AWRC has supported the concepts for enhanced groundwater monitoring and

Appendix D
AWRC Water Resources Management Subcommittee Activity Summary

Date	Submittal Type (Letter/Email)	Received From	General Aspect of Comments	AWRC Response to Comments
				assessments as part of the water plan development process.
7/30/2018	Email	ARA (Chaffin)	Transmittal of ARA Memo on four topics: Water use reporting, Planning and permitting, Compliance and enforcement, and Suggestions for permitting and enforcement	The AWRC recognizes the importance of water use data and reporting and is supporting the upgrade of ADECA-OWR's eWater system as a high priority recommendation. Regarding the other issues, they have been identified for further study and discussion as part of the plan development process.
8/1/2018	Email	TNC (Reid)	Comments on riparian law, instream flows, and aquifer levels.	The AWRC recognizes the importance of these issues and have listed them for further study and discussion as part of the plan development process.
8/2/2018	Email	GSA (Bearden)	Comments on three issues: Local planning for droughts and low flows; Groundwater well locations; and Non-riparian surface and groundwater usage	The AWRC has supported improved local drought planning thru the passage of the Alabama Drought Planning and Response Act with the first ever requirement for local drought planning. The other two issues have been listed in this Roadmap for further study and discussion as part of the plan development process.
8/2/2018	Email with attachments	ARA (Lowry)	The need for additional emphasis on instream flow policy development and other issues identified in the AWAAG report. Also, stated disagreement with the conclusion of no need for additional legislation at the current time. Additionally,	The AWRC recognizes the importance of the issue of instream flow and other issues and listed specific topics for further study and discussion as part of the plan development process. In addition, the AWRC recognizes the importance of an open education and outreach process and has committed to develop a specific plan to accomplish this as part of the planning process. Finally, ARA was given the opportunity

Appendix D
AWRC Water Resources Management Subcommittee Activity Summary

Date	Submittal Type (Letter/Email)	Received From	General Aspect of Comments	AWRC Response to Comments
			emphasized the need for a formal public input process and public meetings. Also requested opportunity to speak at the next AWRC meeting.	to present comments at the August 16, 2018 AWRC meeting.
8/2/2018	Email	GSA (O'Neal)	References need to include instream flows in Roadmap	The AWRC recognizes the importance of the issue of instream flow and has listed it for further study and discussion as part of the plan development process.
8/6/2018	Email	DCNR (Goar)	Comments on instream flows	The AWRC recognizes the importance of the issue of instream flow and has listed it for further study and discussion as part of the plan development process.
8/16/2018	Handout	ARA (Chaffin)	Water Plan poll summary	The poll was received by the AWRC at the August 16, 2018 meeting.
FOR ADDITIONAL COMMENTS (IF RECEIVED)				