

Summary of Input Received from Members of The Alabama Water Resources Council

The list below is a summary of comments received from the following members of the Alabama Water Resources Council: Alabama Department of Ag & Ind.; Alabama Office of Water Resources; Alabama Water Resources Research Institute; Alabama State Climatologist; Alabama Department of Conservation and Natural Resources; Alabama Department of Environmental Management; Geological Survey of Alabama; and the Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority.

1. The State's Water Management Plan should incorporate stakeholder input.
2. Address water quality assurance protocols.
3. Define deliverables, work schedules, milestones, costs, implementation dates.
4. The Water Management Plan should be based on sound science.
5. Include cumulative and continuous assessments of Alabama's water resources. This includes assessments of the quantity and quality of our water.
6. Include a mechanism to promote more agricultural irrigation.
7. Include a mechanism to adequately provide clean drinking water for Alabama's citizens and livestock.
8. Include a mechanism to adequately provide water for Alabama's energy, timber, and manufacturing sectors.
9. Be a water management strategy that takes into account both statewide and regional needs.
10. Alabama's Water Management Plan should be largely based on regulated riparian water rights as defined and explained in 1997 by the Water Laws Committee of the Water Resources Planning and Management Division of American Society of Civil Engineers.
11. Alabama's new water management plan should specifically address the area of agricultural irrigation and include a State Director of Irrigation to monitor and regulate the expansion of irrigation to avoid overuse of available water resources.
12. Determine how much water is used in what sectors of society and how this water can be used more efficiently. Complete a water resource assessment to determine how much water is available from surface and groundwater sources and establish a statewide surface and ground water monitoring network.
13. The plan should determine data and knowledge deficiencies and create research opportunities to fill these gaps.

14. The plan should determine how much water should remain in surface channels to support fish and wildlife populations and sustain the water-production functions of natural hydrologic system.
15. The plan should include a method of determining water needs for human consumption, economic development, agriculture, and energy production. As well as needs for pollution assimilation, sustaining biological conditions and protecting water quality.
16. The plan should identify the management practices necessary to meet identified needs and to protect water resource functions.
17. The plan should create a responsible water-resource development program to meet water supply needs for all areas of the state.
18. Develop a statewide Water Conservation Plan to include recommended practices.
19. The plan should outline the process and criteria for the coordination of data, reports, permits, etc.
20. The plan should develop a strong yet sensible enforcement plan. Implement the approved water management plan. Proceed with an adaptive management approach for all stakeholders and have a process for conflict resolution.
21. When developing an implementation method for the statewide management plan, the “watershed management authority” concept is a proven and highly successful concept and should be considered for utilization

22. The plan should include funding increases to establish necessary monitoring networks and data management tools, implementing research to answer fundamental water management questions, and reorganizing/streamlining agency functions and activities to be responsive to the public's desired goals for managing waters of the State.
23. The plan should include continual water assessments. Research on instream flows should be continued in order to manage water in a more coordinated fashion included in the water planning process. Water availability determinations cannot accurately be made until water use is refined, instream flow needs determined, and water assessments completed. Water use forecasting tools need improving parallel to enhancing our water use reporting system. Another deficiency in the building blocks is that the State has failed to adequately establish agency roles and responsibilities within a modernized water management scheme.
24. Agencies should strive to work towards consistent data standards, analysis methods, and modeling tools and towards establishing a common water data repository, or node, that is accessible to the public, for water data and

- information. This step should be moved to a high priority in the water management reform process.
25. The plan should involve water diplomacy and consensus building in the form of stakeholder groups where the real core issues are discussed and negotiated openly. Once all parties have contributed their thoughts and topic papers prepared, then the stage is set for preparing legislation for reforming water policy and management in Alabama.
 26. The plan should be implemented right now with a legislative charge and authority, and with funding to begin the public process for creation of a comprehensive and adaptive statewide water management plan.
 27. The plan should include accurate water usage and water-demand data.
 28. The assessment of Alabama's water resources should include a water availability-and-use component which provides ratios of water consumption to water availability on a monthly basis based on current consumption for at least the period 1950-2012 at the HUC 8 level. This should be provided as soon as practical for use in developing the water plan.
 29. A similar HUC 12 analysis on a weekly basis should be developed for initial evaluation and consistency with statistical techniques. This should be provided as soon as practical for use in developing the water plan.
 30. Streams smaller than HUC12 where significant withdrawal occurs should be handled through statistical techniques.
 31. The State Water Management Plan should develop the capability to provide real-time water use assessments at the HUC 12 level on a weekly basis for developing, forecasting and visualizing water-use restrictions to protect stream flows during times in which stream flows may be impaired by low flows and withdrawal demands. This system would be operated by the Office of Water Resources (OWR) with technical support provided by the State university water community, the Department of Conservation and Natural Resources, and the Office of State Climatologist for rainfall and weather. OWR in conjunction with the State Drought Management Team would use this system and other information for actually implementing water restrictions.
 32. Environmental flow criteria based on either the ACF in-stream requirements or Alabama Conservation In-stream estimates would be used in conjunction with assessments to determine the number and frequency of impaired watersheds and in real time.

33. The Water Management Plan should require monitoring of all irrigation withdrawals more than 20 ac-ft per year (or the equivalent of 20 acres under irrigation).
34. A comprehensive Water Management Plan should include the ability to allow non-riparian access to water and water transfers to non-riparian users provided there is a quantitative basis for ensuring that these transfers do not harm downstream users and that any water restrictions in a given basin would apply to these non-riparian withdrawals first. The non-riparian user would also be required to participate in a water insurance program for the State. Actual access to water for non-riparian users would be accomplished through private lease agreements or by county actions for some multiple non-riparian users.
35. Under a comprehensive Water Management Plan the State should establish a water insurance plan that would protect water-use investments should water restrictions be imposed. For *current riparian* users the cost of the plan would be provided by the State. For *future riparian* users the cost of the insurance would be shared between the State and the user. For *non-riparian* users the full cost of the insurance would be borne by the *non-riparian* user. The actuarials for the plan would be provided by the analyses. For irrigation withdrawals this insurance might be replaced by standard drought crop insurance which recognizes regulatory drought as equivalent to actual drought.
36. In the next year at least three regional pilot analyses would be undertaken to determine appropriate actions to be taken to reduce the impairment of watersheds. These could serve as guidance on how to handle future instances of impaired watersheds. The actions would include the four pathways listed above (1) conservation, (2) additional off-stream storage, (3) water transfer from a larger non-impaired water body and/or (4) water restrictions. The water restrictions would be coupled with a water insurance policy. Economic analyses would be carried out to determine the least cost actions for protecting the water resource.
37. Additional rain gauges to monitor rainfall and improve radar-derived estimates should be deployed in areas lacking appropriate information.
38. Additional stream gauges should be deployed as a path to model verification especially on small streams.