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Bennett Bearden, Chair
Alabama Water Agencies Working Group
General Counsel, Geological Survey of Alabama
P. O. Box 869999
Tuscaloosa, AL 35486-6999

Re: Alabama Water Policy

Via electronic mail only

Dear Mr. Bearden:

Thank you for the opportunity to provide public comments on the Alabama Water Agencies Working Group (AWAWG)'s development of an action plan and timeline for implementing a statewide water management plan.[1] We write on behalf of Black Warrior Riverkeeper, a nonprofit organization dedicated to protecting and restoring the Black Warrior River and its tributaries. While we are submitting individual comments, we also recognize and endorse the detailed work performed by the Alabama Rivers Alliance on this important subject.

The Black Warrior River is recognized for its unique biodiversity, outstanding cultural and recreational values, and as a major drinking water source. Flowing for roughly 300 miles through parts of seventeen counties, the Black Warrior watershed covers 6,276 square miles containing 16,145.89 miles of streams, and over one million residents. Birmingham, Alabama's largest city, obtains approximately half its drinking water from the watershed. Tuscaloosa, the fifth-largest city, obtains all its drinking water from the watershed. The Black Warrior and its tributaries are national destinations for fishing, boating, paddling, swimming and other recreation. The river is also widely used for commercial navigation and by industry. The Black Warrior watershed provides important habitat and is home to 127 fish species (3 endangered), 36 species of mussels (5 endangered), 15 turtle species (1 threatened), many snails (1 endangered), many crayfish and numerous other species. We believe that is essential that the

[1] The AWAWG consists of Alabama Department of Economic and Community Affairs, Office of Water Resources; Alabama Department of Agriculture and Industries; Alabama Department of Conservation and Natural Resources; the Alabama Department of Environmental Management; and the Geological Survey of Alabama.

State develop and implement a water management plan that recognizes and preserves all of the varied uses of the Black Warrior River.

Currently Alabama is the only state in the Southeast without a water policy. Competing and increasing demand for water is coming from population, agricultural and industrial growth, drought, development, agriculture, industry, environmental protection, fisheries, power generation, navigation, and a host of other human and non-human issues. Only two of the State's watersheds (the Black Warrior and the Cahaba) are contained entirely in Alabama. As more demands are placed upon the State's water resources, Alabama may find itself in more disputes like the tri-state "water war" between the states of Georgia, Alabama, and Florida over the Apalachicola-Chattahoochee-Flint River Basin and the Alabama-Coosa-Tallapoosa River Basin.

From a legal standpoint, establishing and documenting Alabama's prior and current use of these resources (through a comprehensive water management plan) is essential; proving this prior use is integral to claiming a share of the resources. From a practical standpoint, the state needs a comprehensive water management plan to ensure that Alabama has adequate and available water resources in the future to meet growing and competing needs within the State.

First, we believe that any water management plan must be *comprehensive* and fairly consider the wide range of needs for water in our State. States that have tried to implement a piecemeal plan (e.g., Georgia) have not met with success. Because there are many constituencies who will drive the process (stakeholders, government, industry, etc.) a comprehensive plan means tradeoffs that can only occur when all potential issues are on the table, and competing uses and goals are effectively balanced. We especially encourage the AWAWG to take a holistic approach to water policy, rather than potentially elevating certain aspects (e.g., economic development and drinking water) at the expense of others (e.g., habitat and recreation). A properly holistic approach which provides adequate quantity and quality for habitat will necessarily support drinking water uses. Similarly, habitat and recreational uses promote sound economic growth and development through the substantial contributions that the fishing, boating and second home industries make to the State's economy. Considering and planning for all conceivable uses will ensure an appropriately robust, diverse and sustainable plan.

Second, any plan must address consumption and include meaningful encouragement of *conservation and efficiency.* In the past, there have been only modest attempts to address preservation, consumption and reuse of water resources. For example, there is little recycling of water (particularly gray water) and we currently misuse drinking water to water lawns and to perform other jobs that could be accomplished by other means. Water lines are a common source of leakage and lost water. For example, household leaks are estimated to cost 1 trillion gallons of water annually, according to a March 9, 2012 Birmingham Water Works Board (BWWB) press release. The BWWB reported in September 2009 that its system water loss (non-revenue water rate) had improved to 12.7 % (from a reported loss of 28% in August 2007), which is a still significant loss. Industry must adopt more water friendly processes (like the Mercedes-Benz plant's goal of being a "zero discharge" facility). These are just a

few examples of how available water resources can be maximized through conservation efforts. Conservation and efficiency efforts should be the policy's primary focus. Allocations for new reservoirs or inter-basin transfers should only be considered as a last resort.

Third, any plan must be *science-based and data-driven*. Science and data must not only shape decisions on a state level, but also on a regional and watershed level. In developing a water policy, there should be a wide variety of data sets should be consulted from each watershed that encompass inputs from different seasons, different conditions and different locations (e.g., data from the foothills of the Appalachians will be different in kind and character from data collected nearer the Gulf coastal plain; data collected in August will paint a much different picture from data collected in March; and data from reservoirs will be altogether different than data from critical headwater streams). There should be an identification and possible consideration of keystone species, that is, those species that may have a proportionately large influence on species diversity and community structure, as a kind of benchmark for developing policy. Likewise, the interrelationships (oftentimes symbiotic) between aquatic species, along with their varying habitat and water quality requirements must be considered. Science and data offer a neutral (not biased or value-laden) means to determine what will work best to maintain our river systems. If we protect and manage those systems according to science and data, then we optimize our chances of maintaining abundant sources of water to meet all needs in the face of increasing demands.

Scientists now know that the biological and social systems supported by rivers are too complicated to be summarized by a single minimum flow requirement. *See* Bunn, S. E., and Arthington, A. H., Flow regimes for aquatic biodiversity (2002). As a result, it is essential that any water policy address the comprehensive ecological flows necessary to maintain the full spectrum of riverine species, processes and services.

A related issue to the idea that any plan must be science-based and data-driven is the development of both *narrative and numeric water quality standards for flow* necessary to keep stream flow characteristic, that is, a flow that means no adverse resource impact and maintains a degree of flow such that a stream's ability to sustain characteristic fish populations is not functionally impaired. All states surrounding Alabama (Mississippi, Tennessee, Georgia, and Florida) have addressed the issue of instream flow management through either law or adopted policy, however Alabama has not addressed this issue either politically or legally.

With respect to a narrative standard, we recommend that the AWAWG look at neighboring states to see what flow criteria they use and what might work for Alabama. For example, Tennessee's standard is straightforward and specifies that "stream or other waterbody flows shall support the fish and aquatic life criteria." *See* Tenn. Comp. r. and Regs. 1200-04-03-.03(o). Alabama should avoid the mistake of states like Georgia, which adopted a flawed numeric standard based upon the 7Q10 and 1Q10 standards. *See* Ga. Code Ann. 391-3-6-.03. Whatever standards the AWAWG ultimately recommends, that suggested flow must accurately mimic natural conditions (with seasonal highs and lows) and be

based upon a reliable modeling approach to determine the appropriate flow formula. Finally, modified (once free-flowing) river systems must have properly managed dams that do not dramatically alter or change flows, temperature and dissolved oxygen levels.

The Department of Conservation and Natural Resources (DCNR) has recognized that under its trustee responsibilities, *see* Ala. Code § 9-10B-2, maintaining ecologically significant instream flows is fundamental to fulfilling its trustee resource conservation requirements. But while the public trust doctrine regarding water appears to be an indirect means of protecting flow-dependent fish and wildlife, DCNR at least understands that clear policies and laws of water ownership and the need to maintain balanced natural flow variability is needed to strengthen and enhance the State's ability to manage water resources. Determining how much water should remain in surface channels to support fish and wildlife and the functions of natural hydrologic systems is essential, as is determining how surface water and groundwater are linked in this context. Wetlands and flood plains are key areas for transfer of surface water to ground – and they should be recognized and protected as such.

Together with flow protection, an enhanced system of *permitting water withdrawals* must be developed. Alabama currently operates a modest system of registering surface and groundwater withdrawals (called a certificate of use or COU) and requiring reporting for withdrawals over 100,000 gallons. More comprehensive management of water withdrawals, including interbasin water transfers and other non-riparian uses, and enforcing instream flow standards through some type of permitting or enhanced COU program must be required. *No stakeholders should be exempted from the plan and there must be a dependable and robust enforcement program.*

Because developing and implementing any plan encompassing the elements outlined above is an ambitious undertaking, we believe that any water management plan must employ *adaptive management* strategies. The concept of adaptive management of natural resources has gained support as a means of linking learning with policy and implementation. Learning from actual experience with water management and then using those lessons to shape subsequent decisions is critical as the State begins the process of water policy implementation.

We believe that any water management policy must contain the foregoing elements. However, it is important to understand that the plan cannot be properly developed and implemented without necessary *funding* and *legal authority and/or legislation* to translate that plan into action. We encourage the AWAWG to consider carefully what funding requirements there will be and how they will be met. Moreover, it is important that the AWAWG determine the source of the legal authority for the plan as well as what additional legislation may be necessary.

In conclusion, we agree with University of Alabama School of Law Professor Heather Elliot that the AWAWG could avoid reinventing the wheel by recommending the right model to Governor Bentley.

The failures of Alabama's state water law could be corrected with one statute. The State Legislature should act swiftly to adopt a comprehensive water management statute based on the Regulated Riparian Model Water Code; the resulting statute should regulate the state's surface and groundwater as one unified resource and should coordinate water quality regulation with water quantity regulation. Adopting such a statute will prepare the state for future water shortages, as well as putting it on a better footing for future negotiations with neighboring states.

We encourage the AWAWG to address the ideas we have identified above and to look to the American Society of Civil Engineer's *Regulated Riparian Model Water Code* to consider the best way to implement and codify them.

Thank you for your consideration of our comments. We look forward to hearing more about your plans for the development and implementation of a comprehensive water management policy for Alabama which will provide the State with an abundant supply of clean water for the present and the future. In addition, we look forward to continuing this conversation with representatives of the AWAWG as we develop additional ideas and information.

For the River,

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Riverkeeper

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cc: Lance R. LeFleur, Director
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