



September 14, 2014

Arkansas Natural Resources Commission
101 East Capitol, Suite 350
Little Rock, AR 72201

Dear Sir:

The Arkansas Audubon Society (not affiliated with the National Audubon Society) is a statewide organization committed to fostering a greater knowledge of the natural history of Arkansas and promoting conservation of natural resources in Arkansas. As you are well aware, water and water management are critical elements in protecting and managing our natural resources. Your proposed Arkansas Water Plan Update will set water management policy for years to come, and we have the following comments on this update.

Because the analysis of available groundwater indicates that it will be inadequate to meet the demands in the delta (especially in the White River, St. Francis River, Bayou Bartholomew, Bayou Macon, Boeuf River, and L'Anguille River basins) and the proposed solutions include the use of both excess surface water and all available surface water to meet the groundwater shortfall (gap), it appears that future solutions will likely include use of surface water above the excess level. Because of this likelihood, it is important to examine how the "excess" level is currently defined and determined. Excess surface water is currently defined as 25 percent of the water in streams after several defined needs have been met, including instream flow needs. The calculation of these defined needs relies on the Arkansas Method to determine the instream flow portion.

Determining how much water is needed in a stream to maintain a long term, viable aquatic and floodplain ecosystem (the stream and its floodplain function as a unit which must be conserved as a unit) is an extremely difficult task. Streams are dynamic systems that have large annual and seasonal variations in flow including longer term variations, such as extended years of drought or high flows. Because of this dynamism it is not possible to derive one flow that will satisfy the ecosystem needs of a stream/floodplain complex.

The current definition of excess water (25 percent of water above several defined needs including maintenance of minimum streamflows) provides some margin for error if the predicted instream flow needs are not adequate. If future water management takes more water than the currently defined excess, i.e. closer to the total available water, that margin for error is reduced. Under these circumstances it is very important to use the best possible measurements of instream flow needs. The Arkansas Method was promulgated in 1990. Since that time stream hydrologists and aquatic biologists have advanced the science, creating more complex and precise methods of determining the instream flow needs required to maintain a long term, viable stream/floodplain ecosystem. Because it is clear that increasing demands will be made on our surface water for out-of-stream uses, we must be sure that our calculations of instream flow needs are based on the best available science and techniques.

One of the stated goals of the Arkansas Water Plan is:

“Identify and recommend procedures and criteria to improve upon existing instream flow methodologies taking into consideration water quality, fish and wildlife needs, aquifer recharge, and navigation needs at the statewide and basin-specific level.”

The Executive Summary also states:

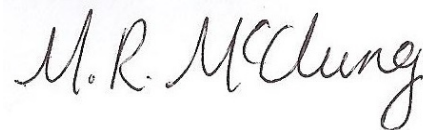
“..there is a recognized need to shift to using empirical, risk-based ecological response/flow relationships as the foundation for determining fish and wildlife flows in the future.”

We encourage you to move quickly to act on these goals of improving the method(s) used to determine instream flow needs. It is clear that agricultural irrigation will continue to put increasing pressure on our surface water resources, and we could severely damage our valuable streams and floodplains if we do not have the best available information to use in our decision making.

One point in the Executive Summary causes some confusion. On page 64, under “White River”, the document states “If only excess surface water is assumed available in the basin, a combined source surplus of greater than 1,600,000 AF is projected to exist.” Yet in Table 6-9 this same amount is presented as a deficit. This important contradiction should be corrected.

Thank you for the opportunity to make these comments. Please keep us informed of your progress in finalizing this Water Plan.

Sincerely,

A handwritten signature in black ink that reads "M. R. McClung". The signature is written in a cursive, flowing style.

Maureen R. McClung, Ph.D.
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