

Secretary Becky Keogh  
Arkansas Department of Energy and Environment  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

September 8, 2020

Dear Secretary Keogh:

Thank you for the opportunity to provide comments on the proposed 2019 triennial revisions to Regulation 2: *Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas*.

Our enclosed comments and recommendations identify and follow the numbering sequence throughout the document. We note that water quality standards should be greatly strengthened throughout Regulation 2 to protect Arkansas' streams and lakes to ensure the health of our ecosystem and tourism industry that depends upon clean pristine waters for drinking water and recreation into the future.

#### Chapter 1: Authority, General Principles and Coverage

Regs. 2.106: - Unfortunately the DEQ definition of **base flow** is seasonal (June 1 – end of October) and does not agree with the hydrological definition of base flow, which is well defined by the USGS on the basis of actual stream flow data. The hydrologically defined base flow occurs throughout the year, and is only marginally related to the seasonal definition. The hydrological definition of a storm flow event is whenever there is not base flow – that makes sense, and the amount of storm flow can be obtained from streamflow data. But hydrological storm flow occurs regularly, if less frequently, during the DEQ base flow period, witness Hurricane Laura. So, the terminology is confusing and probably misleading to anyone other than DEQ/EPA insiders. Perhaps warm season flow and cold season flow would be more appropriate for the DEQ document.

Furthermore, the quarterly grab sample methods used by DEQ cannot be implemented for the most important storm flow events, which occur only 6-10 times a year on Ozark Highland streams that we have analyzed. There is little chance that the grab sample scheme as currently implemented actually gathers enough data to justify a “storm flow” analysis.

This “storm flow” conundrum is important when trying estimate the Total Phosphorus load carries by Arkansas streams – which by some estimates contribute 5-10% of the TP into the Gulf of Mexico dead zone. The Big Creek data in the final report suggests that 90% of the TP load occurs during 10% of the flow, which is seldom sampled.

Harmful Algal Blooms (HAB): We recommend insertion of this term in the Definitions section especially given the increased frequency and presence in Arkansas lakes and streams. Harmful Algal Blooms (HABs) are the rapid growth of algae accompanied often by cyanobacteria that can cause harm to animals, people, or the local ecology.

Primary Contact Season: We recommend inserting the dates of the primary contact season for clarity. The “Primary Season” noted in definitions is confusing and does not have the same dates as “Primary Contact Season” mentioned later in Section 2.507.

Secondary Contact Season: We recommend inserting the dates of the secondary contact season for clarity.

## Chapter 2: Antidegradation Policy

The OS advocates the inclusion of the anti-degradation implementation assessment methodology by reference and regulation. As discussed in the stakeholder meetings, DEQ does not plan on the anti-degradation policy and its associated implementation methodology to be codified in regulation, but as guidance or best practices. Without regulatory requirements in statute, the anti-degradation policy will not be enforceable and will not be protective of Arkansas waters.

## Chapter 3: Waterbody Uses

The OS recommends insertion of text or by reference specifying how designated uses are determined, evaluated, and maintained. For instance, it isn't clear if the designated uses and data justifying these designations dated back to 1972, or some other study.

### 2.302 Designated Uses:

The OS believes that all streams that flow in or contribute to an Extraordinary Resource Water, Ecologically Sensitive Waterbody, Natural and Scenic Waterways, or Tier III stream be categorized as the same designation of the receiving main stream. This designation would provide additional protection to the highest water quality stream designation and reduce potential disturbance and degradation upstream of the designated waterway.

### Regs 2.305: Short Term Activity Authorization:

“The Director may authorize, with whatever conditions deemed necessary and without public notice, short term activities which might cause a violation of the Arkansas Water Quality Standards.”

The OS disagrees that the Director should be allowed to circumvent the public process by not holding public review of short-term activities which could potentially represent serious degradation of water quality standards except in the case of emergencies.. The elimination of requirements of Regulation 8 represents a lack of transparency to the public which is concerning. The recent experience with the

Bethel Heights WWTP is an example of potential abuse which could arise from non-disclosure of information if the Director had enacted Reg. 2.305. BRWA advocates the removal of the exemptions from the public process and oversight.

Reg. 2.408 Solids, Floating Material and Deposits, algae fit this category in many cases.

Waters shall have no distinctly visible solids, scum, algae, or foam of a persistent nature, nor shall there be any formation of slime, bottom deposits, algae, or sludge banks.

The OS supports DEQ's revision but requests that "persistent nature" be defined by number of days or another temporal unit. We also request the inclusion of "algae" in the definition for clarification and recognition of the increased frequency and extent of the algal occurrence throughout Arkansas.

Reg 2.409 Toxic Substances:

"Toxic substances, including HABS, that may cause toxicity to human, animal, plant, or aquatic biota or interfere with normal propagation, growth, and survival of aquatic biota shall not be allowed into any waterbody."

The OS supports DEQ's revision but requests that Harmful Algal Blooms (HABs) be inserted into the text for clarification and recognition of the increased frequency and extent of the HAB occurrence throughout Arkansas, although there should be a numeric standard for HABs.

Reg 2.505 Dissolved Oxygen:

Page 5-3. "In streams with watersheds of less than 10 mi<sup>2</sup>, it is assumed that insufficient water exists to support aquatic life during the critical season. During this time, a dissolved oxygen standard of 2 mg/L will apply to prevent nuisance conditions." The first statement is dubious, one of your key indicator fish in the Arkansas River Valley is the red fin darter which has exactly these small streams as preferred habitat (see picture of red fin darters that were caught in a pool draining a headwater stream of 0.2 mi<sup>2</sup> two weeks ago in August). Whatever are the "nuisance conditions" that would be prevented by a 2mg/L limit (all fish dead) that would persist with a 3 mg/L limit, which would give green sunfish a chance of survival?



Reg. 2.507 Bacteria:

The OS urges DEQ to revise its bacteria standard to be consistent with EPA's Recreational Water Quality Criteria. <https://www.epa.gov/sites/production/files/2015-10/documents/rec-factsheet-2012.pdf>. EPA's standards are much more protective of human health and should be incorporated into Regulation 2. By implementing EPA's Recreational Water Quality Criteria, DEQ is protecting the health of Arkansans and those who recreate in our state.

Logically and in support of the tourism industry, the OS supports extending the length of Primary Contact Season from March 15-October 31 due to increased tourism or local use in the early Spring

(Spring Break) and well into the Fall season that has been made available by increased rainfall in September and October. Primary Contact Season should reflect the changing use patterns of human interaction with water and require increased safety standards for bacteria.

Reg. 2.509 Nutrients:

“Materials stimulating algal growth shall not be present in concentrations sufficient to cause objectionable algal densities or other nuisance aquatic vegetation or otherwise impair any designated use of the waterbody.”

The OS strongly supports the immediate implementation of numeric nutrient criteria for phosphorous and nitrogen. The current language is ambiguous, insufficient, not protective to Arkansas’ water quality and allows for degradation of Extraordinary Resource Waters and other Tier III waters. In 2018, the Buffalo National River experienced a 90-mile long algal bloom. In previous years, the bloom was estimated to be 30 and 50 miles long respectively. Clearly these regulations are not providing water quality protection for the nation’s first national river and are wholly inadequate. Both Oklahoma and Missouri, bordering states, have numeric nutrient criteria for phosphorous. The Oklahoma limit for TP on wild and scenic rivers is 0.037 mg/L. This limit was recommended by joint scientific work by Oklahoma and Arkansas stream scientists on the Illinois River and could serve as a beginning point for all wild and scenic rivers in Arkansas.

Thank you for your time and consideration of our recommendations. Our goal is to protect Arkansas’ streams and lakes for the future use of our citizens and visitors.

Sincerely,

David Peterson, President, Ozark Society