BUFFALO RIVER WATERSHED ALLIANCE
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Mary Barnett
Office of Water Quality
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November 13, 2017

Dear Mary,

The Buffalo River Watershed Alliance (BRWA) is submitting the following comments regarding the 2018 draft Assessment Methodology. Thank you and your team for the opportunity to participate in the stakeholder meetings and provide comments.

BRWA endorses the goals of the ADEQ noted on the web page "We protect, enhance and restore the natural environment for the well-being of all Arkansans" and offer the following comments to support and advocate for ADEQ to meet this standard. Tourism is the second largest industry in Arkansas generating $7.2 billion dollars in 2015. In the past 10 years, Arkansas tourism has generated 116,000 jobs, increasing 21.8% from 2005. Long term conservation that includes protective measures of our rivers, streams, and lakes is essential in maintaining and expanding tourism and employment in our state. http://talkbusiness.net/2016/03/arkansas-tourism-revenue-grows-7-7-in-2015-trending-higher-in-2016/

BRWA strongly encourages ADEQ to take a "precautionary principle" in its assessment methodology and analysis. Climate change, expanding human populations, increasing use of natural resources, and permitting large industrial animal operations in sensitive karst areas has a detrimental effect on the environment. These factors should be at the forefront of any new water quality standards or assessment methodology and should increase protective criteria and assessment.

It in the spirit of supporting ADEQ's public goals, protecting Arkansas jobs, conserving our state's natural resources, and our concern about recent indicators of environmental degradation, BRWA offers the following comments.

1. Please define or cite the EPA definition of "assessment unit" (AU). If AU is not an EPA definition, please indicate such. Section 2.0 (page 7).
2. "Where limited available data and/or information indicate potential impacts or downward trends in water quality" should not be included in a category 3 but in a category 2. These downward trending assessment units should be considered a high priority for ADEQ or other state agencies to investigate further by collecting additional samples and increasing sampling frequency. Section 2.0 (page 8).
3. We strongly disagree with ADEQ's proposal to "reassess using newly defined water quality standards and methodology to determine current water quality standard attainment". Section 3.2 (page 11). Theoretically, the new 2018 Assessment Methodology could be considered by ADEQ

as a newly defined water quality standards and assessment methodology. Using this logic, ADEQ could reassess all streams without new data and decide to delist them. We disagree with ADEQ on this proposed decision. Streams should not be re-assessed or delisted without new data when the water quality standards or methodology are changed. This is bad science and a bad review process.

4. ADEQ proposes to be able to use "Best Professional Judgement" (BPJ) in certain cases where strict adherence to the methodology would provide a different assessment decision. BRWA understands the need for some discretion in unanticipated situations; however, BRWA advocates only using BPJ in rare situations and when the decision made by ADEQ is more protective than the decision reached using current criteria and assessment methodology.
5. ADEQ proposes changing the statistical methodology used to assess impairment by using a binomial method at the 90% confidence interval in order to prevent Type I statistical errors. BRWA notes ADEQ proposed methodology is too restrictive and will result in "false negatives" or Type II statistical errors. The confidence interval should be reduced to 80% to be more protective of the environment or retain the "rounding up" method. Section 3.7 (page 18).
6. Under the pH attainment standards, there is no discussion of how "natural conditions" will be determined. Please identify the methodology and data criteria ADEQ plans to use to identify "natural conditions". Section 6.3 (page 57).
7. The revised scoring criteria for the macro invertebrate attainment are too high. If the score is 54%, it considered "supporting". ADEQ's new proposed criteria is considerably less protective of the macroinvertebrate community which is the foundation of the food chain that supports healthy fish populations particularly trout and bass. A review of Shackleford's (1988) investigation that focused on AR macroinvertebrates should be undertaken and comparison made between Shackleford methodology and standards and the use of Plafkin et al (1989). Why is Shackleford's methodology not being used?
8. Under data quality requirements for bacteria, ADEQ proposes using the last year of information if multiple data sets are available. Because bacteria directly relate to human health, BRWA proposes that any dataset showing impairment during past 5 year period record should designate this AU as non-attainment, consistent with the ADEQ standard for radioactivity. Increased measures to protect human health especially in streams with high recreational use should be implemented. Section 6.6 (page 52). Further we would like to emphasize that the 2012 EPA guidelines on Recreational Water Quality Criteria (https://www.epa.gov/sites/production/files/2015-10/documents/rec-factsheet-2012.pdf) need to be implemented as soon as possible by ADEQ. Current ADEQ standards are not protective to Arkansans especially during primary contact season.
9. Samples should not be collected at 1 meter depth for every parameter. For example, DO should be collected approximately one meter or less above the stream bed not from the surface down. Low dissolved oxygen typically starts from the lake or stream bed and not from surface waters. See Burkholder's comments (submitted March 15, 2016-Item 6, page 7). Section 6.4 (page 47).
10. The mineral standard has been significantly diminished from 10% exceedance to now 25% exceedance. These new standards are considerably less protective than the previous standards. The previous standards should be used and no changes to this section should be undertaken. Section 6.10 (page 63). No justification for the proposed less protective standard at site specific sites is provided. Is this a change due to lobbying from large extractive industries?

11. As mentioned in previous letters and during AM discussions, BRWA strongly advocates for ADEQ to create separate, more protective standards in karst regions of the state. Karst presents unique management and water quality challenges. These challenges should be acknowledged and addressed by ADEQ by implementing more rigorous standards and lower exceedance rates.
12. As has been reported to ADEQ and the National Park Service, the Buffalo National River has experienced two large unprecedented algal blooms during the past 2 years and several of its tributaries are also experiencing algal blooms. The current and proposed assessment methodology does not address algal blooms and does not regulate nutrients through a numeric standard except for Beaver Lake Section 4.3.1 (page 26). We strongly encourage ADEQ to immediately develop protective, quantifiable measures with clear guidance for nutrient and algae limits statewide.
13. There has been no change to the anti-degradation policy section 4.1 (page 24). This section is clearly lacking an evaluation system including an anti-degradation review, methods to calculate base water quality, and to ultimately determine if designated uses are maintained. The lack of an anti-degradation review, evaluation, and process is a serious oversight and should be immediately addressed. Please review Arizona's approach to anti-degradation and consider this system as a template for future ADEQ efforts. (https://legacy.azdeq.gov/environ/water/standards/download/draft_anti.pdf)

Thank you for the opportunity to comment and we hope that you will consider and implement the recommendations that we have provided.

Sincerely,

Gordon Watkins
President, Buffalo River Watershed Alliance