



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

December 2, 2022

Joe Martin
Water Quality Planning, Branch Manager
Water Division
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Re: Arkansas's 2020 Triennial Revisions to Rule 2

Dear Mr. Martin:

This letter follows up on the Environmental Protection Agency (EPA) Region 6's action concerning the Arkansas Pollution Control and Ecology Commission's (Commission) revisions of Arkansas's Regulation No. 2, *Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas*. Please see Troy Hill's November 9, 2022, letter to Alan York which approved the majority of the Commission's new and revised provisions to Regulation, now Rule 2. As you and Russell Nelson have discussed, the provisions that the EPA has taken no action on are not effective for Clean Water Act (CWA) purposes as specified at 40 CFR §131.21(c).

I am writing to request additional information to support EPA's evaluation of whether the recent revisions, including the new definition of "storm flow" and revisions to the narrative in Rule 2.503, are protective of the most sensitive designated use in Arkansas's waters – aquatic life.

Rule 2.503 provides ecoregion-specific turbidity criteria for base flow and storm flow, both of which apply year-round under the currently CWA-effective criteria. The closely related definition of "Storm flow" is unclear in that it "takes into account all flows and data collected throughout the year, including elevated flows due to rainfall events." The phrase "all flows and data" appears to refer to turbidity data collected regardless of the flow scenario. Based on our understanding, the DEQ does not currently collect flow data as part of its ambient water quality monitoring sampling efforts. The less stringent turbidity criteria were derived by setting the values equal to the 90th percentile of turbidity measurements recorded for each ecoregion and specific waters using all available long-term data. The DEQ has previously indicated that these values were considered to be appropriate as instream criteria for common, high frequency storm events although there was no explanation of how this determination was made without corresponding flow data.

It would be useful for the EPA to understand more about how the base flow turbidity criteria were derived and how they are applied to ensure protection of designated uses. Similarly, EPA needs to better understand the scientific rationale supporting revision of the exceedance frequency of the storm flow criteria from the currently CWA-effective 20% to the submitted

25%. The rationale should demonstrate that the revisions protect the aquatic life designated use.

The DEQ has identified a significant number of waters as not supporting the applicable aquatic life use in Arkansas's CWA § 305(b)/303(d) Assessment in recent years. However, there is concern that assessing year-round turbidity data against the less stringent storm flow criteria irrespective of flow condition may potentially bias assessments if there are a large number of baseflow turbidity measurements in the dataset. This could reduce the potential of detecting exceedances in more than 25% of samples the stormflow criteria as specified in DEQ's Assessment Methodology. As described in our recent action on the state's triennial water quality standards revisions, the EPA believes additional scientific information and rationale are needed to support the change in exceedance frequency of base flow criteria from an implied never to exceed to 20% to exceedance frequency for storm flow criteria to 25%.

The EPA is committed to working with the DEQ to develop clear and scientifically supportable criteria and an assessment methodology that implements the criteria to allow for accurate and confident identification of turbidity impairments. If you have any questions or concerns, please contact me at (214) 665-6473, or have your staff contact Russell Nelson at (214) 665-6646.

Sincerely,

Richard A. Wooster

Richard Wooster
Supervisor, Water Quality Protection Section

cc via email:

Mary Barnett, Ecologist Coordinator, Water Quality Planning, Water Division, DEQ