



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

September 3, 2020

Jacob Harper
Arkansas Department of Energy and Environment
5301 Northshore Drive
Little Rock, AR 72118-5317

Re: EPA comments on proposed 2019 triennial revisions to Arkansas's Regulation No. 2

Dear Mr. Harper:

The U.S. Environmental Protection Agency (EPA) would like to provide the enclosed comments on the Arkansas Department of Energy and Environment, Division of Environmental Quality's (ADEQ) proposed amendments to *Regulation No. 2: Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas*. These revisions were considered by the Arkansas Pollution Control and Ecology Commission (Commission) in its June 26, 2020 meeting to consider the ADEQ's petition to initiate rulemaking. These amendments were subsequently presented at the Commission's public hearing on July 29, 2020.

In its review, the EPA noted that Regulation 2 includes some significant proposed revisions, many addressing issues from prior EPA actions. In the enclosed document, we have included comments and recommendations that should be addressed prior to submission to the EPA for action. We also noted a number of revisions made in response to changes in State law. The majority of these are considered nonsubstantive with regard to the Clean Water Act (CWA) and its implementing regulation and do not require direct comment. Our enclosed comments follow the ADEQ's original "Master List" format for consistency with our prior comments, excluding nonsubstantive revisions. Please note that the enclosed questions, comments and recommendations do not constitute a determination by the EPA under CWA §303(c). Approval/disapproval decisions will be made by the Region following the adoption of new/revised standards by the Commission and their formal submission to the EPA.

Thank you for the opportunity to provide these comments on the proposed 2019 triennial revisions to Regulation 2. If you have any questions or concerns, please contact me at (214) 665- 8138, or have your staff contact Russell Nelson at (214) 665-6646 or nelson.russell@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Maria L. Martinez".

Maria L. Martinez
Chief
Permitting & Water Quality Branch

Enclosure

cc: Becky Keogh, Secretary, Arkansas Department of Energy and Environment
Robert Blanz, Ph.D., Associate Director, Office of Water Quality
Joe Martin, Branch Manager, Water Quality Planning, ADEQ

EPA COMMENTS AND RECOMMENDATIONS ON PROPOSED REVISIONS TO ADEQ'S RULE NO. 2

EPA Comments/Recommendations: The following detail the EPA's comments and recommendations on the proposed revisions and other provisions found in ADEQ's Exhibit A: Rule 2 Markup Draft. The EPA's comments and recommendations follow the ADEQ's original "Master List of Revisions" format to simplify both the ADEQ and the public's understanding of comments on a particular provision. Many of these comments were provided to ADEQ by the EPA previously, but have been provided again here alongside new comments on more recent changes to Rule 2 as reflected in the Exhibit A markup draft. ADEQ's revisions considered by the EPA to be non-substantive, or on which the EPA has no comments to provide, have been removed from this list of comments. In addition, the EPA refers to Clean Water Act (CWA) and federal regulation requirements specific to designated uses for Coffee Creek and Mossy Lake and has provided attachments related to comments on other provisions.

Categories of revisions:

Revisions reflecting previous EPA disapproval actions and/or no action taken

Revisions reflecting previous EPA approval actions

Provisions not revised with EPA comments/recommendation

CHAPTER 1: AUTHORITY, GENERAL PRINCIPLES, AND COVERAGE

Regs. 2.102 – 2.106

1. **Revision:** Reg. 2.104: Strike “, unless the permittee is completing site-specific criteria development or is under a plan approved by the Department, in accordance with Regs. 2.306, 2.308, and the State of Arkansas Continuing Planning Process.”
Justification: In an October 31, 2016 Technical Support Document (TSD), EPA took no action on the inclusion of this phrase; however, they noted that “EPA could not determine how this exception would be implemented consistent with CWA [sections] 303 and 502 and their implementing regulations.” Because of this, the Department elects to remove the phrase that was inserted during the 2013 triennial review.

EPA Comment/Recommendation: As described in the EPA's October 31, 2016 action, we did not act on this phrase for the reason described in our TSD and here in ADEQ's justification. The EPA supports ADEQ's proposal to strike this phrase.

2. **Revision:** Reg. 2.105: Insert “temporary” before “modification.”
Justification: Water quality standards modifications are temporary under an EIP. This language clarifies that.
3. **EPA Comment/Recommendation:** The insertion of “temporary” provides clarity for this authorizing provision. The EPA recognizes that the statutory language for Environmental Improvement Projects (EIP) held in Appendix B cannot be modified by the Arkansas Pollution Control & Ecology Commission (Commission) but recommends

that all future submissions and supporting documents clearly identify the term sought for an EIP. Without this specificity, an EIP may be considered incomplete per 40 CFR 131.6. See additional comments on Revision: Reg. 2.309 – Water Quality Standards Temporary Variance regarding EIPs.

4. **Revision:** Reg. 2.106 – All Flows: Strike “All Flows - Takes into account all flows and data collected throughout the year, including elevated flows due to rainfall events.”
Justification: EPA disapproved this language and it must revert to “Storm Flows”.

EPA Comment/Recommendation: As stated in our January 24, 2008 action and described in detail in our TSD, the EPA took no action on the definition in Reg. 2.106 of “All Flows.” However, in that same action, the EPA disapproved the associated revised heading title of "All Flows Values" and associated text revision (from "storm-flow" to "all flows") in Reg. 2.503 (see response to revisions to Reg. 2.503 below). The EPA supports ADEQ’s deletion of this definition.

5. **Revision:** Reg. 2.106 – Effluent: Insert definition of “Effluent.”
Justification: “Effluent” is used several times within the regulation but is undefined. This definition is from Regulation No. 6.

EPA Comment/Recommendation: The EPA supports the inclusion of this definition as it will add clarity to subsequent provisions.

6. **Revision:** Reg. 2.106 – Storm Flows: Insert “Storm flows: Takes into account all flows and data collected throughout the year, including elevated flows due to rainfall events.”
Justification: EPA disapproved “All Flows” and it reverts back to “Storm Flows”.

EPA Comment/Recommendation: See the response to Reg. 2.503 – Turbidity below.

CHAPTER 2: ANTIDegradation POLICY

7. **EPA Comment/Recommendation:** The EPA has provided comments and recommendations on initial and subsequent drafts of the state’s Antidegradation Implementation Methodology (AIM). See **Attachment 1**. State antidegradation policy and implementation procedures must be consistent with the components detailed in 40 CFR 131.12. The functional relationship between the state’s standards/antidegradation policy and its implementation should be clear if the AIM is not included in either the water quality standards or the state’s Continuing Planning Process (CPP) document consistent with 40 CFR 130.5(b)(6).

CHAPTER 3: WATERBODY USES

Regs. 2.302 – 2.311

1. **Reg. 2.302 Designated Uses**

EPA Comment/Recommendation: For the purpose of improving transparency with the public, it would be helpful if ADEQ would consider providing a better link between designated uses listed here and the parameters used to evaluate their support. See general comment provided for Chapter 5 below.

2. **Reg. 2.308 Site Specific Criteria**

EPA Comment/Recommendation: Part (A)(2) indicates that site specific numerical values may be established based on “304(a) Guidance modified to reflect site conditions (i.e., Water Effects Ratio);” Please note that the Biotic Ligand Model (BLM) has been the EPA’s recommended approach for developing site-specific criteria for copper since 2007. This use of this approach is currently in development for various other metals as well. While the EPA will consider criteria based on a water effect ratio (WER), we will use the EPA’s *Draft Technical Support Document: Recommended Estimates for Missing Water Quality Parameters for Biotic Ligand Model* to run a BLM if it is not otherwise provided. The EPA will defer to the more protective criteria based on either the WER or BLM approach.

Although WERs can be conducted for parameters other than metals, the EPA has found that WER studies for contaminants like ammonia or cyanide have either resulted in a WER of approximately “1” or could not be successfully completed due to analytical issues. This may be the case for other §304(a) contaminants. The EPA no longer recommends use of WERs for aluminum given the difficulty in keeping it dissolved in solution at the level that will generate a LC50 for a WER study. Also, we have noted that Regulation 2 does not include aquatic life criteria for aluminum. The EPA has also commented on the use of the EPA’s §304(a) criteria recommendations in the development of WERs for parameters other than metals in response to recent proposed updates for Arkansas’s CPP.

3. **Revision: Reg. 2.309 – Water Quality Standards Temporary Variance**

This provision was amended as such:

~~A temporary variance to the water quality standards may be allowed for an existing permitted discharge facility. The variance will be for specified constituents and shall be no longer than a three year period. A water quality standards temporary variance shall be developed in accordance with and meet the requirements of 40 C.F.R. §131.14 and must be approved by the Arkansas Pollution Control and Ecology Commission and the United States Environmental Protection Agency. A variance will be considered when it is determined that a standard, including designated use, can ultimately be attained or when preliminary evidence indicates that a site specific amendment of the standards may be appropriate. A variance may be granted only to the applicant and will not apply to other discharges into the specified waterbody.~~

Justification: Simply referencing 40 C.F.R. § 131.14 eliminates confusion and clarifies the requirements of a WQS temporary variance.

EPA Comment/Recommendation: The EPA supports the ADEQ's proposed revisions updating Reg. 2.309 referencing 40 CFR 131.14 regarding temporary variance. Although states are not required to include an authorizing provision for variances in their water quality standards, such provisions can provide clarity and direction for the public/regulated community. The use of variances as defined in 40 CFR 131.14 and associated guidance could be a useful tool to be utilized as an alternative to permanent site-specific criteria modification. A variance could be particularly useful in place of an EIP (Reg. 2.105, Appendix B) given that the limiting factor that is the three-year restriction for that type of project.

CHAPTER 4: GENERAL STANDARDS

Regs. 2.401 – 2.410

4. **EPA General Comment on Chapter 4:** We presume that each of the general standards provisions in this chapter apply to the protection of all uses in all waters of the state. As such, we recommend that the opening provision to Chapter 4 clarify that, with the exception of Biological Integrity, each of the following general standards provisions apply to all applicable uses in all waters of the state. This will provide added transparency as to the affected uses in those cases where impairments are identified for these general parameters.
5. **Revision:** Reg. 2.404: Amended as follows:

~~Reg-Rule 2.404 Mixing Zones~~RESERVED

~~Where mixing zones are allowed, the effects of wastes on the receiving stream shall be determined after the wastes have been thoroughly mixed with the mixing zone volume. Outfall structures should be designed to minimize the extent of mixing zones to ensure rapid and complete mixing.~~

~~For aquatic life toxic substances in larger streams (those with Q7-10 flows equal to or greater than 100 cfs), the zone of mixing shall not exceed 1/4 of the cross-sectional area and/or critical flow volume of the stream. The remaining 3/4 of the stream shall be maintained as a zone of passage for swimming and drifting organisms, and shall remain of such quality that stream ecosystems are not significantly affected. In the smaller streams (Q7-10 flows less than 100 cfs) because of varying local physical and chemical conditions and biological phenomena, a site-specific determination shall be made on the percentage of river width necessary to allow passage of critical free swimming and drifting organisms so that negligible or no effects are produced on their populations. As a guideline, no more than 2/3 of the cross-sectional area and/or critical flow volume of smaller streams should be devoted to mixing zones thus leaving at least 1/3 of the cross-sectional area free as a zone of passage.~~

~~4-2~~

~~Mixing zones are not allowed for the parameters of bacteria or oil and grease, or where the background flow is less than the critical flow or where the background concentration of a waste parameter exceeds the specific criteria for that waste parameter.~~

~~In lakes and reservoirs the size of mixing zones shall be defined by the Department Division on an individual basis, and the area shall be kept at a minimum.~~

~~Mixing zones shall not prevent the free passage of fish or significantly affect aquatic ecosystems.~~

~~A mixing zone shall not include any domestic water supply intake.~~

Justification: None provided

EPA Comment/Recommendation: The federal regulation at 40 CFR 131.13 indicates that states “may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances.” We interpret any such discussion of mixing zones as discretionary policy information. As such, the above mixing zone provision may be removed without further review by the EPA. However, the EPA recommends that this and similar water quality implementation policy provisions be included in the state of Arkansas’s *Rule 6, Regulations for State Administration of the National Pollutant Discharge Elimination System (NPDES)*.

6. **Revision:** Reg. 2.409: Amended as follows:

~~Discharges shall not be allowed into any waterbody which, after consideration of the zone of initial dilution, the mixing zone, and critical flow conditions, will~~ Toxic substances 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.

Justification: None provided.

EPA Comment/Recommendation: This provision maintains the prohibition on discharges of toxic substances that may impact aquatic biota, but removes explicit statement requiring consideration of zone of initial dilution, mixing zone, or critical flow conditions. As noted in 40 CFR 131.13, states “may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flow and variances.” We interpret any such discussion of the above considerations as discretionary policy information. As such, the above information with respect to zone of initial dilution, mixing zone and critical flow conditions may be removed without further review by the EPA. However, the EPA recommends that this and similar water quality implementation policy provisions be included in the state of Arkansas’s *Rule 6, Regulations for State Administration of the National Pollutant Discharge Elimination System (NPDES)*.

However, the new sentence in this provision indicates that toxic substances that *may* cause toxicity are not allowed in the water. This suggests that any detection of any of these substances may cause a violation. This could lead to the interpretation that no dischargers can have these components in their effluent discharge because that would lead to detectible results which would be a violation. See comment on similar provision in Reg. 2.508 below.

7. **Revision:** Reg. 2.410: Insert a comma after “grease,” insert a comma after “globules,” strike “or,” insert a comma after “residue,” insert a semicolon after “surface,” strike “or,” insert a semicolon after “waterbody.”

Justification: Created a list to correct grammar.

EPA Comment: The EPA recommends replacing the term “associated biota” with “aquatic life” as it has previously been defined, or otherwise define the term “associated biota”.

CHAPTER 5: SPECIFIC STANDARDS

Regs. 2.501 – 2.512

8. EPA General Comments on Chapter 5:

A. For purposes of providing greater transparency to the public, ADEQ may consider providing a clearer link between the parameters described in this chapter and those uses listed in Reg. 2.302, including:

- i. 2.502 Temperature (e.g. criteria listed by waterbody type, could also include designated use?)
- ii. 2.503 Turbidity
- iii. 2.504 pH
- iv. 2.506 Radioactivity
- v. 2.508 Toxic Substances (implied aquatic life use, are there other uses or specific tiers of aquatic life use to which this applies?)
- vi. 2.510 Oil and Grease (implied aquatic life use, are there other uses or specific tiers of aquatic life use to which this applies?)
- vii. 2.511 (A) Site Specific Mineral Quality Criteria

B. The applicable duration and/or frequency for the criteria for several parameters within this section have been removed or are not described. Including this information allows for greater transparency and minimizes variations in interpretation. Such information is also a critical part of any criterion as it may define, change, or establish the level of protection to be applied in attainment decisions, thereby affecting existing standards implemented under section 303(c) of the Act. For example:

- i. 2.502 Temperature (duration and frequency)
- ii. 2.504 pH (duration and frequency)
- iii. 2.505 Dissolved oxygen (frequency)
- iv. 2.508 Toxic substances (duration and frequency)
- v. 2.511 (A) Site Specific Mineral Quality Criteria (duration and frequency)

See additional EPA comments below on specific parameters.

9. **Revision:** Reg. 2.502: First paragraph regarding temperature criteria implementation removed as follows:

~~For purposes of determining effluent limits, Heat shall not be added to any waterbody in excess of the amount that will elevate the natural temperature, outside the mixing zone, by~~

more than 5°F (2.8°C) based upon the monthly average of the maximum daily temperatures measured at mid-depth or three feet (whichever is less) in streams, lakes, or reservoirs.

Justification: None provided.

EPA Comment/Recommendation: The EPA supports the deletion of the phrase “measured at mid-depth or three feet (whichever is less)”. See the EPA’s response to ADEQ’s removal of “1.0 meter depth” language under Rule 2.502 below. However, consistent with the EPA’s 4-part test for determining new or revised water quality standards (see FAQ #4 at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>), the remaining deletions have the effect of revising applicable water quality standard by removing provisions identifying the magnitude (variability above background) and duration (monthly average of maximum daily temperatures) of criteria necessary to support a designated use. To support these deletions, the EPA would need as part of the state must submit supporting justification for why deleting these provisions are scientifically defensible and protective of the designated use in order for the EPA to approve them consistent with 40 CFR 131.5.

10. **Revision:** Reg. 2.502: Strike “(applicable at 1.0 meter depth).”

Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: In its October 31, 2016 action, the EPA did not act on the “applicable at 1.0-meter depth” language as noted in ADEQ’s justification, the EPA took no action because the phrase implies that criteria for a specific parameters would only apply at 1.0-meter depth. Although likely intended as directing assessment, this limitation means that a criterion would not apply at other depths. The EPA has long held the position that water quality criteria apply throughout the water entire column. The EPA supports the modification here and in subsequent provisions that refer to the 1.0-meter depth limitation.

11. **Revision:** Reg. 2.503: First paragraph amended as follows:

“There shall be no distinctly visible increase in turbidity ~~of receiving in~~ waters of the state attributable to ~~discharges or in-stream~~ anthropogenic activities.”

Justification: None provided.

EPA Comment/Recommendation: The revised language generalizes but does not change the meaning of the statement. The EPA supports this change.

12. **Revision:** Reg. 2.503: Strike “all” and replace with “storm” in the last sentence of the first paragraph and in the table.

Justification: The revision from “storm” to “all” flows was disapproved by the EPA in 2008 and upheld after some discussion in the 2016 Technical Support Document. As a result, the language must revert to original.

EPA Comment/Recommendation: The proposed revisions to the opening sentence in Reg. 2.503 do not alter the meaning of the sentence and are acceptable.

As part of the Commission's 2007 triennial "Phase II" revisions, the heading "Storm-Flow Values" was replaced with a new heading titled "All Flows Values", the term "storm flows" in the text of Regulation 2.503 was revised to read "all flows" and a new definition in Regulation 2.106 for "All Flows." The EPA disapproved these revisions because they modified the application of the less stringent turbidity criteria in a way that is inconsistent with the original intent of deriving storm flow criteria. Using this approach may also result in the potential misidentification of a water in the state's Integrated Water Quality Monitoring Assessment Report (CWA §305(b)/303(d) integrated report) as supporting its applicable fisheries designated use when it may actually be impaired due to turbidity as detailed in our January 28, 2008 action and supporting Record of Decision (ROD). Reverting to the previously approved column heading "Storm-Flow Values" without addressing this underlying problem could potentially be seen as simply renaming the same problem making it difficult for the EPA to approve these revisions.

The new definition in Reg. 2.106 of "*Storm flows: Takes into account all flows and data collected throughout the year, including elevated flows due to rainfall events*" provides some context to how storm flow turbidity criteria are presently assessed. However, it remains overly expansive (i.e. still references "all flows"), and does not provide a definitive criterion, or criteria, by which storm flows are differentiated from base flows. A clear definition of storm flows is important in that it allows the assessor to make a sound judgment as to which criterion should apply under a given flow condition. At present, the state's assessment methodology for turbidity provides two approaches: one for baseflow, in which all turbidity data collected between May and October are applied against baseflow criteria, and one for storm flow, in which all turbidity data collected under any flow scenario across all seasons are applied against storm flow criteria. The former approach assumes that reduced flows occur most frequently during the summer and early fall months. It is questionable whether this would be appropriate every year, particularly during wet years when stormwater turbidity measurements may be compared to baseflow turbidity criteria, thereby raising the possibility of unnecessarily identifying a higher number of exceedances. Alternatively, the latter approach appears to fall back to assessing turbidity under all flows, as opposed to storm flows only, thereby discounting the original intent of the storm flow criteria to evaluate turbidity increases after storm events. As noted in the EPA's 2008 ROD, storm flow criteria were based on a 90th percentile of historic turbidity data in each ecoregion, ostensibly representing turbidity conditions under high (or relatively high) flow conditions, likely storm flow related, in which turbidity becomes more elevated. Assessing year-round turbidity data against the storm flow criteria, irrespective of flow condition, potentially biases that assessment if there are a large number of baseflow turbidity measurements in the dataset, thereby reducing the potential of finding >25% of samples exceeding the stormflow criteria. When using a binomial approach in assessments, every measurement is important, whether under baseflow or storm flow conditions and to apply an inappropriate criterion to just a few turbidity measurements can lead to significant decision error. The above issues point to the need for a clear definition of both baseflows and storm flows in the

water quality standards and to apply the criteria to turbidity measurements based on field-observed flow conditions.

The EPA understands that part of the issue with assessing storm flow-based criteria is the lack of flow data available at the time turbidity measurements are made, making the judgment of which criteria to apply more onerous. As a possible stopgap, in lieu of empirical flow measurement during every sampling event, the EPA recommends that ADEQ consider a flow estimation technique, such as the use of flow severity guidelines (**Attachment 2**), that allows for the field identification of flow conditions that could be used by assessors to more appropriately apply the dichotomous flow-based criteria (this approach is obviously most appropriate for use in rivers and streams, but could also be applied to tributaries of lakes and reservoirs for the same purpose). While the use of such estimation techniques may be subjective among different observers and may require some degree of calibration among field staff prior to widespread use, the resulting information would perhaps provide a more accurate assessment of actual flow conditions as compared to the presently broad, and possibly biased, assumptions about the seasonality of flow and applicability of criteria. Upon settling on a particular set of flow observation categories and the appropriate cutoffs among these categories, the definitions of baseflow and stormflow should be incorporated into the water quality standards under Reg. 2.106 based on ADEQ's evaluation of which flow categories best represent baseflow versus stormflow.

The comments outlined above are intended to further the discussion between the EPA and the ADEQ on this topic and to gain better insights into how the ADEQ's assessment approach evolved from the original derivation of these criteria. It is important that the ADEQ provide supporting information to further clarify how the Department's assessment approach applies baseflow and storm flow turbidity criteria and explain why this approach is appropriate to support the proposed revised heading title and associated definition.

13. **Revision:** Reg. 2.503: Strike "(applicable at 1.0 meter depth)" within the table.
Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

14. **Revision:** Reg. 2.504: Strike "For lakes, the standards are applicable at 1.0 meter depth."
Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

15. **Revision:** Reg. 2.504: Second paragraph was removed as follows:

~~“As a result of waste discharges, the pH of water in streams or lakes must not fluctuate in excess of 1.0 standard unit over a period of 24 hours.”~~

Justification: None provided.

EPA Comment/Recommendation: Consistent with EPA’s 4-part test for determining new or revised water quality standards (see FAQ #4 at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>), these deletions have the effect of revising applicable water quality standards by removing provisions identifying the magnitude (variability of pH no greater than 1 standard unit) and duration (24 hours) of criteria necessary to support a designated use. To support these deletions, the state must submit supporting justification for why deleting these provisions are scientifically defensible and protective of the designated use in order for the EPA to approve them consistent with 40 CFR 131.5.

16. **Revision:** Reg. 2.505: Multiple paragraphs at end of “Rivers and Streams” section were removed as follows:

~~“For purposes of determining effluent discharge limits, the following conditions shall apply:~~

~~(A) The primary season dissolved oxygen standard is to be met at a water temperature of 22°C (71.5°F) and at the minimum stream flow for that season. At water temperatures of 10°C (50°F), the dissolved oxygen standard criteria is 6.5 mg/L.~~

~~(B) During March, April and May, when background stream flows are 15 cfs or higher, the dissolved oxygen standard is 6.5 mg/L in all areas except the Delta Ecoregion, where the primary season dissolved oxygen standard criteria will remain at 5 mg/L.~~

~~(C) The critical season dissolved oxygen standard is to be met at maximum allowable water temperatures and at Q7-10 flows. However, when water temperatures exceed 22°C (71.6°F), a 1 mg/L diurnal depression will be allowed below the applicable critical standard criteria for no more than 8 hours during any 24 hour period.”~~

Justification: None provided.

EPA Comment/Recommendation: Consistent with the EPA’s 4-part test for determining new or revised water quality standards (see FAQ #4 at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>), these deletions have the effect of revising applicable water quality standards by removing provisions identifying an alternative criterion magnitude under varying temperature and/or flow conditions (identifies 6.5 mg/L as a criterion for determining limits, which was not otherwise listed in the preceding criteria table), as well as maximum allowable magnitude of diurnal DO depression (no more than 1 mg/L below applicable criteria)

over a given duration (no more than 8 hours over 24 hours) necessary to support a designated use. To support these deletions, the state must submit supporting justification for why deleting these provisions are scientifically defensible and protective of the designated use in order for the EPA to approve them consistent with 40 CFR 131.5.

17. **Revision:** Reg. 2.505: Two paragraphs at end of “Lakes and Reservoirs” section were removed as follows:

~~“Effluent limits for oxygen-demanding discharges into impounded waters are promulgated in Arkansas Pollution Control and Ecology Commission Regulation Rule No. 6, Regulations Rules for State Administration of the National Pollutant Discharge Elimination System (NPDES).~~

~~However, the Commission may, after full satisfaction of the intergovernmental coordination and public participation provisions of the State of Arkansas Continuing Planning Process, establish alternative limits for dissolved oxygen in lakes and reservoirs where studies and other relevant information can demonstrate that predominant ecosystem conditions may be more accurately reflected by such alternate limits; provided that these limits shall be compatible with all designated beneficial uses of named lakes and reservoirs.”~~

Justification: None provided.

EPA Comment/Recommendation: 40 CFR 131.13 indicates that states “may, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances.” The above language constitutes agency policy with respect to calculation of alternate permit limits where it can be demonstrated that this is appropriate. Such language does not constitute a water quality standard. The EPA supports this change. However, the EPA recommends that this and similar water quality implementation policy provisions be included in the state of Arkansas’s *Rule 6, Regulations for State Administration of the National Pollutant Discharge Elimination System (NPDES)*.

18. **Revision:** Reg. 2.505: Strike “applicable at 1.0 meter depth.”

Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

19. **Revision:** Reg. 2.507: Insert “Secondary contact use is assumed in all watersheds” in first paragraph.

Justification: Secondary contact should still be protected throughout the year if primary contact use is not attainable on waterbody for any reason.

EPA Comment/Recommendation: It's not clear from the context when read in its entirety if this provision means that secondary contact only applies to all watersheds < 10 mi², or if secondary contact will apply to all watersheds regardless of size? Please explain.

20. **Revision:** Reg. 2.507: The last sentence of the first paragraph was removed as follows:
“~~No mixing zones are allowed for discharges of bacteria.~~”

Justification: None provided.

EPA Comment/Recommendation: See comments regarding implementation of water quality standards in mixing zones for Reg. 2.404 above. The EPA supports this revision.

21. **Revision:** Reg. 2.507: Insert “or fecal coliform” after “E. coli” in second paragraph.
Justification: This addition clarifies that the individual sample language applies to either *E. coli* or fecal coliform data.

EPA Comment/Recommendation: With regard to Recreational Water Quality Criteria (RWQC), the ADEQ has long used the indicator fecal coliform and associated criteria for the protection of primary contact use. The EPA has discouraged the use of total and fecal coliforms as indicators of fecal contamination since 1986 because they are not reliable indicators of illness to swimmers. As far back as 1986, the EPA clearly stated the Agency's expectations for states to transition to indicators that are superior to fecal coliforms. In 1986 and again in 2012, the EPA, pursuant to CWA § 304(a), issued recommended RWQC to protect the public from exposure to harmful levels of pathogens while participating in primary contact recreation activities such as swimming. The EPA recommended RWQC are based on two bacterial indicators of fecal contamination - *E. coli* or enterococci in fresh waters, and enterococci in marine waters. As a result, the EPA recommends that the proposed revision be changed to “the below listed applicable criteria for *E. coli* shall not be exceeded...” and delete fecal coliform as an indicator from both the second paragraph the table of applicable criteria. It will be difficult for the EPA to approve a modification of a provision that includes such outdated indicator and criteria as protective of contact designated uses.

22. **Revision:** Reg. 2.507: Insert “individual” in the second paragraph before “samples.”
Justification: Insertion of this language clarifies that the 25% exceedance rate and the eight (8) sample minimum applies only to Individual Sample Criteria, not the geometric mean.

EPA Comment/Recommendation: The EPA supports this revision as it relates to the indicator *E. coli*.

23. **Revision:** Reg. 2.507: Strike “2” as a footnote marker under the “Primary Contact” and “Secondary Contact” headings of the table for ERW, ESW, NSW, Reservoirs, Lakes.
Justification: The associated footnote pertaining to 1.0-meter depth was not approved by EPA and should be removed. This addition was proposed in the previous triennial review

to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

24. **Revision:** Reg. 2.507: Strike the footnote “Applicable at 1.0-meter depth in Reservoirs and Lakes.” Insert “(RESERVED).”

Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

25. **Revision:** Reg. 2.507: Footnote 5 – Strike “October 1 to April 30”. Replace with “Year-round.”

Justification: This clarifies the intent that Secondary Contact Recreation is year-round. The Reg. 2.302 definition of Secondary Contact Recreation does not limit the use to only part of the year.

EPA Comment/Recommendation: Recommend that the primary and secondary contact timeframes be listed in 2.106 (Definitions) or 2.302 (Designated Uses).

26. **Revision:** Reg. 2.508: The first sentence of the first paragraph was amended as follows: “~~Toxic substances shall not be present in receiving waters, after mixing, in such quantities as to be toxic~~ that may cause toxicity to human, animal, plant or aquatic life or to interfere with the normal propagation, growth and survival of the indigenous aquatic biota shall not be allowed into any waterbody.”

Justification: None provided.

EPA Comment/Recommendation: The removal of the phrase “in such quantities” from this provision may result in a more sweeping interpretation than is perhaps expected. The new sentence in this provision indicates that toxic substances that may cause toxicity are not allowed in the water. This means that any detection of these substances may cause a violation. This could lead to the interpretation that no discharger can have these components in their effluent because that would lead to detectible results which would be a violation.

27. **Revision:** Reg. 2.508: The second through fifth sentences of the first paragraph were removed as follows: “~~Acute toxicity standards apply outside the zone of initial dilution. Within the zone of initial dilution acute toxicity standards may be exceeded but acute toxicity may not occur. Chronic toxicity and chronic numeric toxicity standards apply at, or beyond, the edge of the mixing zone. Permitting of all toxic substances shall be in~~

accordance with the toxic implementation strategy found in the State of Arkansas Continuing Planning Process.”

Justification: None provided

EPA Comment/Recommendation: See comments regarding inclusion of implementation language in water quality standards, including its relationship to mixing zones, for Reg. 2.404 above. The EPA supports this revision.

28. Reg. 2.508 Toxic Substances:

EPA Comment/Recommendation: 40 CFR § 131.20(a) was amended as part of the EPA's 2015 water quality standards regulation revision. The amended regulation requires any state that chooses not to adopt new or revised criteria for any parameters for which the EPA has published new or updated criteria recommendations under CWA § 304(a) to explain its decision when reporting the results of its triennial review to the EPA. The goal of this revised provision is to ensure public transparency about state water quality standards decisions. The EPA is including this item as a reminder to include this information, if applicable, in any triennial review submittal to the EPA.

The EPA's "Supplemental Information for Water Quality Standards Regulatory Revisions Final Rule: New or Updated CWA Section 304(a) Criteria Recommendations Published since May 30, 2000" (2015) provides a list of the new or updated CWA section 304(a) criteria recommendations published between May 30, 2000 and the publication of the EPA's 2015 water quality standards regulation revision. Please note that the more recently published national 304(a) recommended aquatic life criteria for cadmium (2016), selenium (2016 – Freshwater), aluminum (2018-Freshwater) and cyanotoxins (2019-Freshwater) are not listed in this table.

ADEQ should evaluate these criteria recommendations and provide the required explanation for any updated federal criteria not adopted as part of this triennial review. There is no required format in which to provide these explanations. However, two examples have been provided (**Attachment 3**) from another Region 6 state that may be helpful as an example.

29. Reg 2.508 Toxic Substances - footnote:

EPA Comment/Recommendation: A footnote provided for the "Dissolved Metals" table indicates that "These values may be adjusted by a site-specific Water Effects Ratio (WER)". Please note that the Biotic Ligand Model (BLM) has been the EPA's recommended approach for developing site-specific criteria for copper since 2007. This approach is currently in development for various other metals as well. While the EPA will consider criteria based on a water effect ratio (WER), we will use the EPA's missing parameters guidance to run a BLM if it is not otherwise provided. The EPA will defer to the more protective criteria based on either the WER or BLM approach.

As noted in our previous comment on Reg. 2.308, the EPA no longer recommends use of WERs for aluminum given the difficulty in keeping it dissolved in solution at the level that

will generate a LC50 for a WER study. As noted previously, Reg. 2 does not include aquatic life criteria for aluminum.

30. **EPA Comment on Reg. 2.509(A):** This rule states: “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.” Does the phrase "any designated use of the waterbody" mean that nutrients can be used to determine support for any of the listed designated uses in Rule 2.302?

31. **Revision:** Reg. 2.509(B): The last two paragraphs and table were removed from this section as follows: “~~All point source discharges into the watershed of waters officially listed on Arkansas’s impaired waterbody list (303(d)) with phosphorus as the major cause shall have monthly average discharge permit limits no greater than those listed below. Additionally, waters in nutrient surplus watersheds as determined by Act 1061 of 2003 Regular Session of the Arkansas 84th General Assembly as set forth in Ark. Code Ann. § 15-20-1104, and subsequently designated nutrient surplus watersheds may be included under this Reg. Rule if point source discharges are shown to provide a significant phosphorus contribution to waters within the listed nutrient surplus watersheds.~~

<u>Facility Design Flow – mgd</u>	<u>Total Phosphorus discharge limit – mg/L</u>
= or > 15	Case by case
3 to < 15	1.0
1 to < 3	2.0
0.5 to < 1.0	5.0
< 0.5	Case by Case

~~For discharges from point sources which are greater than 15 mgd, reduction of phosphorus below 1 mg/L may be required based on the magnitude of the phosphorus load (mass) and the type of downstream waterbodies (e.g., reservoirs, Extraordinary Resource Waters). Additionally, any limits listed above may be further reduced if it is determined that these values are causing impairments to special waters such as domestic water supplies, lakes or reservoirs, or Extraordinary Resource Waters.~~

Justification: None provided.

EPA Comment/Recommendation: The deleted language describes permit limits for total phosphorus that are not water quality criteria, and do not appear to directly implement nutrient-related criteria (chlorophyll a and Secchi depth) found in the water quality standards. These are design flow-based limits implemented when total phosphorus is identified as a cause of impairment in waters to which a point source discharge occurs. The EPA supports this revision. However, please note that the state’s CPP refers to this provision. Is this being incorporated into Rule 6? If so, the CPP reference needs to be updated.

32. **Revision:** Reg. 2.510: Insert a comma after “grease”, strike “receiving” before “waters” and insert “of the state” after “waters”, insert a comma after “globules,” strike “or,” insert

a comma after “residue,” strike a comma after “surface,” insert a semicolon after “surface,” strike “or,” insert a semicolon after “watercourses.”

Justification: Created a list to correct grammar.

EPA Comment/Recommendation: Specification of applicability of oil and grease water quality standards to all waters of the state, rather than only receiving waters, is acceptable.

33. **Revision:** Reg. 2.510: Strike following sentence: “~~No mixing zones are allowed for discharges of oil and grease.~~”

Justification: None provided.

EPA Comment/Recommendation: See comments regarding inclusion of implementation language in water quality standards, including as it may relate to mixing zones, for Reg. 2.404 above. The EPA supports this revision. As noted in our prior comment to Reg. 2.410, we recommend replacing the term “associated biota” with “aquatic life” or define the term “associated biota”.

34. **Reg. 2.511(A) Site Specific Mineral Quality Criteria:**

EPA Comment/Recommendation: In its 2007 triennial “Phase II” revisions, the Commission revised Reg. 2.511(A) adding and striking the following language (denoted by underline/strikeout text):

“Mineral quality shall not be altered by municipal, industrial, other waste discharges or instream activities so as to interfere with designated uses. The following limits apply to the streams indicated and represent the monthly average concentrations of chloride (Cl⁻), sulfate (SO₄²⁻) and total dissolved solids (TDS) ~~not to be exceeded in more than one (1) in ten (10) samples collected over a period of not less than 30 days or more than 360 days.~~”

As detailed in its January 24, 2008 action and supporting TSD, the EPA disapproved the striking of language referring to exceedance rates based on a lack of supporting documentation as required by 40 CFR 131.6 (b) and (f) and methods, including methods and analysis conducted that would allow the EPA to determine the adequacy and scientific basis for this revision. The EPA specified in that action that the previously approved language in Reg. 2 (April 23, 2004) remains in effect for CWA purposes. The ADEQ’s Assessment Methodology (2018) specifies that site-specific mineral criteria listed in Reg. 2.511(A) means that assessments must be based on a monthly average of site-specific values for chlorides, sulfates, and/or TDS not to be exceeded in more than one (1) in ten (10) samples collected over not less than 30 days or more than 360 days. Given that the EPA disapproved the removal of the language specified above, using the 2018 Assessment Methodology as currently written is inconsistent with Reg. 2.511(A) given that this language remains in effective for CWA purposes.

35. **Revision:** Reg. 2.511(A): Bayou Meto: Revise as follows:

Bayou Meto (Rocky Branch **to Pulaski/Lonoke**
county line Bayou Two-Prairie)

Bayou Meto (~~mouth to Bayou Two Prairie~~)
(Pulaski/Lonoke county line ~~to mouth~~)

Justification:

- A 2007 3rd party rulemaking (minute order 04-41) states “modify the dissolved mineral standards for Bayou Meto from the point it crosses the Pulaski/Lonoke County line to the confluence with the Arkansas River as follows: sulfates from 37 mg/l to 45 mg/l and chlorides from 64 mg/l to 95 mg/l.”
- The October 26, 2007, 2007 version of Reg. 2 submitted to EPA for approval states “Bayou Meto (mouth to Bayou Two Prairie)”.
- EPA noted in an August 5, 2008 TSD that the reach description in the minute order and in Reg. 2 did not match. EPA’s August 5, 2008 TSD stated approval for “Bayou Meto (mouth to Bayou Two Prairie).”
- The 2013 triennial review attempted to clarify the original 3rd party rulemaking’s intended reach and revised the regulation to state “Bayou Meto (mouth to Pulaski/Lonoke county line).”
- EPA’s October 31, 2016 TSD made no statement of this revision (ie approve, disapprove, no action).
- Additionally, there are two sets of criteria noted in the reg for part of Bayou Meto.
- Therefore the 2016 clarification is once again being made in addition to clarification of the criteria applicable to the upper reach “Bayou Meto (Rocky Branch to Pulaski/Lonoke county line).”

EPA Comment/Recommendation: The proposed revisions are specific to “Bayou Meto to Polaski/Lonoke county line” and “Bayou Meto (Pulaski/Lonoke county line).” These revisions do not include Bayou Two Prairie. As a result, the EPA does not have any concerns with revising these descriptors in Reg. 2.511(A).

The two following entries that specify the exclusion of those portions of Bayou Two Prairie that have the ERW designated use and appear consistent with the EPA’s August 5, 2008 action disapproving site-specific chloride and sulfate criteria applicable to Bayou Two Prairie adjacent to the Smoke Hole Natural Area as inconsistent with 40 CFR § 131.12(a)(3). The ecoregion criteria of 48 mg/L and 37.3 mg/L for chloride continue to apply to the portion of Bayou Two Prairie adjacent to Smoke Hole Natural Area.

36. **Revision:** Reg. 2.511 (A): Close parentheses on “Bayou Two Prairie (Pulaski/Lonoke county line to.... Smoke Hole Natural Area)”

Justification: Punctuation correction.

EPA Comment/Recommendation: Please note the following additional corrections:

- A. Please strike “†” on all values for Poteau River from confluence of Unnamed trib to Scott County Road 59 and Unnamed trib from Tyson-Waldron Outfall 001 to confluence with the Poteau River. The listed criteria were approved by the EPA on June 2, 2020 and are now applicable for CWA purposes.

- B. Please update the sulfate criterion for Stennitt Creek from Brushy Creek to Spring River to reflect that approved by the EPA on June 3, 2020 (43mg/L). Similarly, please update the table in this provision to reflect those minerals criteria approved on the same date for Unnamed Tributary of Brushy Creek from Vulcan Construction Materials Outfall 001 to Brushy Creek and Brushy Creek from Unnamed Tributary to Stennitt Creek.
- C. Please strike “†” on all values for Town Branch from Point of Discharge of the Huntsville WWTP downstream to the confluence with Holman Creek and Holman Creek from the confluence with Town Branch downstream to the confluence with War Eagle Creek. The listed criteria were approved by the EPA on May 22, 2020 and are now applicable for CWA purposes.

37. **Revision:** Reg. 2.511(B): Amended the following sentence as follows: “The values listed in the table below are not intended ~~nor will these values~~ to be used by the ~~Department~~ Division to evaluate attainment of the water quality standards for assessment purposes.
Justification: None provided.

EPA Comment/Recommendation: In its August 31, 2016 action the EPA did not approve certain portions of Reg. 2.511(B) including the entire sentence referred to. Based on that action, this sentence is not, nor has it ever been, effective for CWA purposes. The EPA approved the criteria referred to as “values” as water quality standards pursuant to the CWA §303(c) and they are effective for CWA purposes. The criteria themselves were based on the significant work that the ADEQ did in the development of its Physical, Chemical, and Biological Characteristics of Least-Disturbed Streams in Arkansas’s Ecoregions, Vol. 2 and 2 (ADEQ, 1987). The stated purpose of these documents was to provide a sound scientific basis for the development, review, and adoption of water quality standards.

The EPA looks forward to continuing its work with ADEQ to implement its October 27, 2017 Mineral Criteria Development Strategy, including upcoming milestones of presenting proposed revised mineral criteria to the Mineral Stakeholder workgroup and presenting proposed multi-metric biological indices (IBI) and tiered aquatic life uses (TALU) for the Ouachita Mountain ecoregion and expanding this effort in other ecoregions. The EPA also considers the collaborative effort in the current NSTEPS project, as well as RARE project related to conductivity, to be promising.

38. **Revision:** Reg. 2.511(C): Strike “For lakes and reservoirs applicable at 1.0 meter depth.”
Justification: This language was not approved by EPA in a 2016 Technical Support Document and is therefore not effective for Clean Water Act purposes and should be removed. This addition was proposed in the previous triennial review to clarify assessment for lakes. This language is now contained in the Assessment Methodology for the 305(b) report.

EPA Comment/Recommendation: See comments for Reg. 2.502 above. The EPA supports this revision.

39. **Revision:** Reg. 2.512(D): Strike sentence as follows: “~~For permitted discharges, the daily maximum or seven-day average permit limit shall be calculated using the four-day average value described above as an instream value, after mixing and based on a season when fish early life stages are present and a season when fish early life stages are absent.~~”

Justification: None provided.

EPA Comment/Recommendation: This provision described the criteria (and their seasonality) being used as a basis for calculating permit limits but did not specifically describe how these calculations would be made, nor changed the protectiveness of the criteria. This provision is not a water quality standard. See comments regarding inclusion of implementation language in water quality standards for Reg. 2.404 above. The EPA supports this revision. However, the removal of the first sentence creates some uncertainty as to what pH and temperature are being used for: the determination of ammonia criteria for assessment as well as the derivation of permit limits? This should be clarified.

Also, the EPA requests more information about how the pH data are obtained. When was the last time data were collected to determine the ecoregion mean value?

APPENDIX A

40. **Revision:** Appendix A, throughout: The following footnotes were removed from the Site Specific Criteria Variations tables for each ecoregion:

“*Increase over natural temperatures may not be more than 2.8°C (5°F).

**At water temperatures $\leq 10^{\circ}\text{C}$ or during March, April and May when stream flows are 15 cfs and greater, the primary season dissolved oxygen standard will be 6.5 mg/L. When water temperatures exceed 22°C , the critical season dissolved oxygen standard may be depressed by 1 mg/L for no more than 8 hours during a 24-hour period.”

Justification: None provided.

EPA Comment/Recommendation: For the deleted temperature provision: consistent with the EPA’s 4-part test for determining new or revised water quality standards (see FAQ #4 at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>), these deletions have the effect of revising applicable water quality standards by removing provisions identifying the magnitude (variability above background) of criteria necessary to support a designated use. To support these deletions, the EPA would need as part of the state’s submission a supporting justification for why deleting these provisions is scientifically defensible and protective of the designated use in order to approve them.

For the deleted DO provision: consistent with the EPA’s 4-part test for determining new or revised water quality standards (see FAQ #4 at <https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf>), these deletions have the effect of revising applicable water quality standards by removing

provisions identifying an alternative criterion magnitude under varying temperature and/or flow conditions (identifies 6.5 mg/L as a criterion, which was not otherwise listed in the preceding criteria table in Rule 2.505), as well as maximum allowable magnitude of diurnal DO depression (no more than 1 mg/L below applicable criteria) over a given duration (no more than 8 hours over 24 hours) necessary to support a designated use. To support these deletions, the EPA would need as part of the state's submission a supporting justification for why deleting these provisions is scientifically defensible and protective of the designated use in order to approve them.

41. **Appendix A - Site Specific Designated Use Variations for Ozark Highlands Table**

EPA Comment/Recommendation: The footnote states “† Not applicable for clean water act purposes until approved by EPA.” Please note that the EPA approved the removal of the Domestic Water Supply Uses for both Holman Creek and Town Branch on May 22, 2020. This footnote, and the “†” symbols, can be removed from this table. In addition, the EPA approved the removal of Domestic Water Supply uses on June 3, 2020 for Unnamed Tributary of Brushy Creek from Vulcan Construction Materials Outfall 001 to Brushy Creek and Brushy Creek from Unnamed Tributary to Stennitt Creek. This could be reflected in the table above or below Stennitt Creek.

42. **Revision:** Appendix A-OH: Strike “all” and insert “storm” under the turbidity heading within the table.

Justification: The revision from “storm” to “all” flows was disapproved by EPA in 2008 and upheld after some discussion in the 2016 Technical Support Document. As a result, the language must revert to original.

EPA Comment/Recommendation: As noted in the response to Reg. 2.503 above, the EPA supports this revision.

43. **Revision:** Appendix A-OH: Strike the “+” footnote indicator from the Crooked Creek and White River entries under the Site-specific Criteria Variations Supported by Use Attainability Analysis heading.

Justification: This footnote is no longer valid for these entries as EPA has approved the site-specific criteria.

EPA Comment/Recommendation: The EPA supports this revision. Likewise, the “+” footnote indicator can also be removed from the Holman Creek and Town Branch entries. The listed criteria for these waters were approved by the EPA on May 22, 2020.

44. **Appendix A - Site Specific Criteria Variations for Ozark Highlands Table**

EPA Comment/Recommendation: In addition to TDS, please update to reflect the sulfate criterion for Stennitt Creek from Brushy Creek to Spring River that was approved by the EPA on June 3, 2020 (43 mg/L). Similarly, please update this table to reflect those new minerals criteria approved on the same date for Unnamed Tributary of Brushy Creek

from Vulcan Construction Materials Outfall 001 to Brushy Creek and Brushy Creek from Unnamed Tributary to Stennitt Creek.

45. **Revision:** Appendix A-BM: Strike “all” and insert “storm” in two places under the turbidity heading of within the table.
Justification: The revision from “storm” to “all” flows was disapproved by EPA in 2008 and upheld after some discussion in the 2016 Technical Support Document. As a result, the language must revert to original.

EPA Comment/Recommendation: As noted in the response to 2.503 above, the EPA supports this revision.

46. **Revision:** Appendix A-ARV: Strike “all” and insert “storm” under the turbidity heading of within the table.
Justification: The revision from “storm” to “all” flows was disapproved by EPA in 2008 and upheld after some discussion in the 2016 Technical Support Document. As a result, the language must revert to original.

EPA Comment/Recommendation: As noted in the response to Reg. 2.503 above, the EPA supports this revision.

47. **Appendix A-ARV:**

EPA Comment/Recommendation: Please strike the “†” footnote indicator from the Poteau River and Unnamed Tributary entries in the Site-specific Criteria Variations Supported by Use Attainability Analysis table. The associated footnote can be removed as well since all listed criteria have been approved by the EPA.

48. **Revision:** Appendix A-OM: Strike “all” and insert “storm” under the turbidity heading of within the table.
Justification: The revision from “storm” to “all” flows was disapproved by EPA in 2008 and upheld after some discussion in the 2016 Technical Support Document. As a result, the language must revert to original.

EPA Comment/Recommendation: As noted in the response to Reg. 2.503 above, the EPA supports this revision.

49. **Revision:** Appendix A-OM: Insert “*These temporary standards variations are effective for 160 months from EPA’s approval of the EIP.” as a footnote below the Temporary Variations Supported by EIP table.
Justification: This footnote clarifies the timeframe the referenced entries have a temporary variation.

EPA Comment/Recommendation: As stated in the EPA’s January 7, 2020 approval letter and as stated in the accompanying Technical Support Document, the temporary site-specific criteria are approved for a period of 12.3 years from the date of the EPA’s approval. This is consistent with the timeline confirmed by ADEQ in Sarah Clem’s letter November

30, 2018 letter responding to the Russell Nelson's October 18, 2018 inquiry regarding the duration of the HESI EIP project. The 12.3-year duration equates to 148 months.

50. **Appendix A-OM:**

EPA Comment/Recommendation: The footnote "Not applicable for clean water act purposes until approved by EPA" and all references to it in the Temporary Variations Supported by EIP table have been removed. The EPA supports this revision. In addition, we recommend that the temporary minerals criteria be reflected in Rule 2.511(A) as well.

51. **Revision:** Appendix A-GC: Strike "Unnamed tributary to Flat Creek from EDCC Outfall 001 d/s to confluence with unnamed tributary A to Flat Creek Chloride 23 mg/L, Sulfate 125 mg/L, TDS 475 mg/L, (GC-2, #37) †" and "Unnamed tributary A to Flat Creek from mouth of EDCC 001 ditch to confluence with Flat Creek, Chloride 16 mg/L, Sulfate 80 mg/L, TDS 315 mg/L, (GC-2, #38) †"
Justification: EPA disapproved these site-specific criteria revisions as per August 31, 2001 TSD.

EPA Comment/Recommendation: As described in ADEQ's justification, the EPA has disapproved these revisions related to EDCC. No comment is necessary.

52. **Revision:** Appendix A-GC: Strike the "†" after the entry "Red River from mouth of the Little River to the Arkansas/Louisiana state line, TDS 780 mg/L (GC-1, #55, 58)†"
Justification: In a March 6, 2018 Technical Support Document, EPA approved the site-specific criteria change on the Red River. As a result, this criterion is approved for Clean Water Act purposes and no longer necessitates the "†" notation.

EPA Comment/Recommendation: As described in ADEQ's justification, the EPA has approved these revisions. No further comment is necessary.

53. **Revision:** Appendix A-GC: Strike "†" footnote indicator at the end of the "Little River from Millwood Lake to the Red River..." entry.
Justification: EPA approved these site-specific criteria revisions per a May 16, 2016 TSD. As a result, these criteria are approved for Clean Water Act purposes and no longer necessitate the "†" notation.

EPA Comment/Recommendation: As described in ADEQ's justification, the EPA approved these revisions in its 2016 action and deletion of the footnote indicate is appropriate. No further comment is necessary.

54. **Revision:** Appendix A-GC: Insert "*These temporary standards variations are effective for 160 months from EPA's approval of the EIP." as a footnote below the Temporary Variations Supported by EIP table.
Justification: This footnote clarifies the timeframe the referenced entries have a temporary variation.

EPA Comment/Recommendation: The EPA’s approval letter and supporting TSD state that these temporary standards are approved for 12.3 years from the time of approval (January 7, 2020)), consistent with the timeframe referenced in a letter to Russell Nelson, EPA Region 6, from Sarah Clem, ADEQ, dated November 30, 2018. This equates to 148 months.

55. **EPA Comment on Appendix A-GC:** We recommend that temporary minerals criteria be reflected in Rule 2.511(A) as well.

56. **Revision:** Appendix A-GC: Strike “Variations Supported by Technical Adjustment Red River from the Arkansas/Oklahoma state line to the mouth of the Little River, sulfate 250 mg/L, TDS 940 mg/L (GC-1, #57)†
Red River from mouth of the Little River to the Arkansas/Louisiana state line, sulfate 225 mg/L (GC-1, #58)†”

Justification: In a June 6, 2016 Technical Support Document, EPA disapproved the site-specific criteria change on the Red River.

EPA Comment/Recommendation: As described in ADEQ’s justification, in its June 6, 2016 action, the EPA disapproved revisions for the upper Red River – Arkansas/Oklahoma state line to the mouth of the Little River. No further comment is necessary.

57. **Revision:** Appendix A-GC: Revise Plate GC-1 to remove #57 and #58

Justification: In a June 6, 2016 Technical Support Document, EPA disapproved the site-specific criteria change on the Red River.

EPA Comment/Recommendation: See prior comment. No further comment is necessary.

58. **Revision:** Appendix A-GC: Revise Plate GC-2 to remove duplicate #40 and add #41

Justification: According to text, #41 corresponds to Loutre Creek from Highway 15 S. to the confluence of Bayou de Loutre which has no domestic water supply use.

EPA Comment/Recommendation: See prior comment. No further comment is necessary.

59. **Appendix A-GC: Coffee Creek and Mossy Lake**

EPA Comment/Recommendation: The EPA and the ADEQ have discussed concerns related to removal of Gulf Coastal designated uses for Coffee Creek and Mossy Lake that was approved by the EPA in the early 1980s as it relates to the requirements in the federal regulation at 40 CFR 131.10 and 131.20(a). Given the regulatory requirements, in an effort to determine the appropriate uses for Coffee Creek and Mossy Lake, the EPA funded a use attainability analysis (UAA) in 2007 that was developed by Parsons Engineering and the University of Arkansas Ecological Engineering Group to determine if the “no aquatic life use” designation for Coffee Creek and Mossy Lake is appropriate. The Parsons UAA indicates Coffee Creek and Mossy Lake have the potential to support

the state's Gulf Coastal aquatic life use but that the Georgia-Pacific Crossett discharge effects both habitat and aquatic life in Coffee Creek and Mossy Lake. A subsequent UAA developed by AquAeTer Environmental Engineering in 2013 on behalf of Georgia-Pacific did not refute these findings but recommended the development of a seasonal Gulf Coastal aquatic life use.

The ADEQ appears to have considered the AquAeTer UAA recommendations and likely its own analysis and proposed a seasonal Gulf Coastal ecoregion aquatic life use for portions of Coffee Creek as part of its 2019 triennial revisions as required by 40 CFR 131.10 and 131.20(a). However, the ADEQ's initial proposed revisions were limited to the addition of a "...seasonal Gulf Coastal ecoregion aquatic life use, but its application was limited to the historic channel of Coffee Creek upstream of Georgia Pacific's Mossy Lake Treatment Unit from N33.057, W092.055 to N33.094, W092.04 and the remaining upstream portion of the historic channel from N33.112, W092.013 to N33.119, W091.995." In our October 31, 2019 letter, the EPA provided comments and recommendations regarding this proposed revision, noting that it did not include seasonal uses that would apply to the entirety of Coffee Creek and Mossy Lake or appropriate CWA Sec. 101(a)(2) uses that would apply to these waters during the remainder of the year. These initial comments also referred to the requirements found in the federal regulations.

As part of Arkansas's water quality standards revisions process, the ADEQ has since provided its proposed revisions to Reg. 2, now Rule 2, to the Governor's Office for review. Following that review, the ADEQ petitioned the Arkansas Pollution Control and Ecology Commission (Commission) to adopt the revisions proposed by the Water Quality Planning Branch. However, the proposed revisions to Rule 2 that were brought before the Commission during its July 29, 2020 hearing no longer included the previously proposed seasonal use for the portions of Coffee Creek referred to in the ADEQ's initial proposed revisions and did not include uses consistent with CWA Sec. 101(a)(2) or Rule 2.102 and 2.302 for the Coffee Creek or Mossy Lake. In response, the EPA again recommends that Commission adopt uses consistent with CWA Sec. 101(a)(2) and Arkansas's own Rule 2.102 for the entirety of Coffee Creek and Mossy Lake and again reiterates the CWA requirements and those in the federal regulations at 40 CFR 131.10 and 40 CFR 131.20(a). See the EPA's October 2019 comments in **Attachment 4**.

60. **Revision:** Appendix A-D: Insert "(Rocky Branch to Pulaski/Lonoke county line)" and strike "from Rocky Branch Creek to Bayou Two Prairie" in the first Bayou Meto entry under "Site-specific Criteria Variations Supported by Use Attainability Analysis" heading.

Justification:

- A 2007 3rd party rulemaking (minute order 04-41) states "modify the dissolved mineral standards for Bayou Meto from the point it crosses the Pulaski/Lonoke County line to the confluence with the Arkansas River as follows: sulfates from 37 mg/l to 45 mg/l and chlorides from 64 mg/l to 95 mg/l."
- The October 26, 2007, 2007 version of Reg. 2 submitted to EPA for approval states "Bayou Meto (mouth to Bayou Two Prairie)".

- EPA noted in an August 5, 2008 TSD that the reach description in the minute order and in Reg. 2 did not match. EPA's August 5, 2008 TSD stated approval for "Bayou Meto (mouth to Bayou Two Prairie)."
- The 2013 triennial review attempted to clarify the original 3rd party rulemaking's intended reach and revised the regulation to state "Bayou Meto (mouth to Pulaski/Lonoke county line)."
- EPA's October 31, 2016 TSD made no statement of this revision (ie approve, disapprove, no action).
- Additionally, there are two sets of criteria noted in the reg for part of Bayou Meto. Therefore the 2016 clarification is once again being made in addition to clarification of the criteria applicable to the upper reach "Bayou Meto (Rocky Branch to Pulaski/Lonoke county line)."

EPA Comment/Recommendation: As noted in our prior response on Reg. 2.511(A), the proposed revisions here are specific to "Bayou Meto to Polaski/Lonoke county line" and "Bayou Meto (Pulaski/Lonoke county line)." The EPA does not have any concerns with revising these descriptors in Appendix D (D-3, Map Insert 42).

61. **Revision:** Appendix A-D: Bayou DeView from mouth to AR Hwy 14 moved to different part of Site Specific Standards Criteria Variations table.

EPA Comment/Recommendation: This water should be removed from its original location (D-1. # 41) of the same table.

ATTACHMENT 1
ANTIDegradation IMPLEMENTATION

**EPA COMMENTS AND REGOMMENDATION ON
ARKANSAS'S DRAFT
ANTIDEGRADATION IMPLEMENTATION METHODS
2020 EDITION**

**Proposed by
Arkansas Energy and Environment
Division of Environmental Quality
Office of Water Quality**

**U.S. EPA REGION 6
WATER DIVISION**

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DEFINITIONS

Alternatives Analysis: A structured evaluation of the practicability of less- and non-degrading alternatives to an activity likely to cause lowering of water quality.

EPA comment: *In previous comments, the EPA noted that the requirement found in 40 CFR 131.12(a)(2)(ii) refers to an evaluation of a “...range of practicable alternatives...”, rather than evaluating whether an alternative is practicable. This is important because this analysis should be comparing the different options that have already been determined to be practicable and that lessen or prevent degradation. Thus, the EPA again recommends structuring the alternatives analysis definition to compare different practicable options that prevent or lessen degradation.*

Baseline Water Quality (BWQ): The level of water quality that is used to establish the assimilative capacity within a waterbody. BWQ will be determined the first time that an analysis of significant degradation is done for authorization of a proposed new or expanded discharge is considered for authorization after {STARTING DATE}. For a new authorization, the BWQ shall be representative of the water quality at or immediately upstream from a proposed discharge. For an expanding discharge, the BWQ shall include the levels of pollutants already permitted to be discharged at maximum design flow. Once established, BWQ is a fixed quantity expressed as a concentration.

EPA comment: *Recommend replacing “the first time that an analysis of significant degradation is done” with “the first time a new or expanded discharge is considered.” The current language is problematic because BWQ needs to be determined to track the use of assimilative capacity by nonsignificant degradation. “Nonsignificant” degradation needs to be tracked so that it is clear when over 10% of the assimilative capacity has been cumulatively utilized in the water body and a Tier 2 review is needed for the next activity. EPA also recommends replacing “For an expanding discharge” with “For an expanding authorization, that was last authorized prior to [month, year]” so that it is clear that this is only accounting for expansions of discharges that were approved prior to the establishment of these AIMS.*

Existing Activity: NPDES permits, state permits, any activity having a CWA § 401 certification, or any activity that threatens the most sensitive use or results in significant degradation, at the time the baseline water quality is determined.

EPA comment: *Please clarify how the state plans to determine if an activity results in significant degradation if the BWQ hasn’t been determined yet. Does the state only intend this reference to significant degradation to be defined in terms of baseline water quality, or defined more broadly? Is this phrase meant to be synonymous with the definition of “significant lowering of water quality”? If so, please clarify that in the definition for “significant lowering of water quality”, if not, please include a definition of “significant degradation”.*

Existing Use Protection (EUP): All parameters of all waters are designated for all uses as per Rule 2.302 unless the use has been removed following APC&EC Rule 2.306.

EPA comment: *This definition does not define what existing use protection is but rather refers to Rule 2.302 that describes designated uses that may apply to specific waters and Rule 2,306 that describes the procedures for removing those uses. The definition should be revised to include the following: Maintenance and protection of existing instream water uses and the level of water quality necessary to protect existing uses.*

High Quality Protection (HQP): For the uses listed in CWA 101(a)(2), all parameters of waters that are not defined as Tier 1 or 3 and have water quality that is better than water quality criteria.

EPA comment: *This revised definition does not appear to be functionally different than the prior definition of “High Quality Water (HQW).” This definition should be revised to clarify how the state intends to apply antidegradation protections to CWA Sec. 101(a)(2) uses. The EPA recommends that the ADEQ describe how protection for high quality waters includes a review process for using assimilative capacity. We also recommend including the following into this provision: Protection and maintenance of parameters that have water quality that exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Any significant lowering of water quality for these parameters requires the completion of a Tier 2 review prior to authorization.*

Parameter-by-Parameter Basis: The review of the pollutants in a waterbody by assessing the level of each pollutant of concern, as opposed to assessing the overall condition of a waterbody, for the purpose of determining the level of antidegradation review applicable to the waterbody.

EPA comment: *Strongly recommend that the ADEQ expand this definition to add: “When an activity is proposed, the state determines which parameters represent water quality that is better than the applicable criteria developed to protect the CWA section 101(a)(2) uses. The water body is then considered high quality for those parameters. Using this method, a water body can be tier 2 for some parameters and tier 1 for others. Determinations of protection are made at the time of the antidegradation review.”*

Water Quality Criteria (WQC): Chemical, physical, and biological elements of Water Quality Standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use.

Proposed EPA comment: *The EPA recommends replacing this definition with the definition of water quality criteria from federal regulation: “Criteria are elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.”*

Waterbody-by-Waterbody Approach: The review of the pollutants in a waterbody by assessing the overall or combined levels of the pollutant of concern as opposed to assessing the level of each pollutant of concern in a waterbody for the purpose of determining the level of protection applicable to the waterbody.

EPA comment: *This approach should/can consider more than just the pollutant concentrations. It should be a holistic assessment. The EPA recommends replacing the current definition with this: **Water body-by-Water body Approach:** An approach for determining whether a water body/waterbody segment is high quality based on a judgment of the overall quality of the water body considering a variety of factors. A judgment of quality is made on a weighted assessment of chemical, physical, biological, and other applicable information. Waters can be identified as high quality even if criteria for certain pollutants are not attained or if some designated uses are not fully supported. The presence of a water body on the CWA section 303(d) list for one CWA 101(a)(2) use does not automatically exclude it from potentially being identified as a Tier 2 water. The quality of the water body can either be determined before or at the time of the antidegradation review.*

Waters of the State: All streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state. A.C.A. § 8-4-102 (2017). ~~For the purposes of this Antidegradation Implementation Methodology, waters of the state include those waters meeting the federal definition of Waters of the United States (WOTUS) for Clean Water Act purposes.~~

EPA comment: *Strongly recommend that the reference the last sentence in this provision be deleted. Federal regulations at 40 CFR 131.12 do not limit the state's obligation to protecting only those waters defined as waters of the U.S. The Arkansas Code Annotated (A.C.A. § 8-4-102 et seq.) states that "waters of the state" means all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state." Given that Arkansas's Water Quality Act provides a more expansive definition of "waters of the state," although federal jurisdiction is limited to waters of the U.S., federal regulations do not prohibit the state from applying WQS to all waters of the state. As this provision is currently written, many waters of the state that may be critical to maintaining biological integrity and preserving water quality throughout the state would be excluded from protections in conflict with 40 CFR 131.12 and the provisions in Rule 2.102, and 2.501 referring to applicability to all waters at all times.*

INTRODUCTION

No comments are necessary for this section.

TIER PROTECTION LEVELS

An Antidegradation Policy provides a means for maintaining and protecting surface water quality by requiring all activities with the potential to affect water quality to undergo review and 153 a comment period prior to any decision to approve or deny the activity. In compliance with 40 CFR § 131.12, implementation procedures for Arkansas's Policy identify levels of antidegradation protection (tiers), determination of baseline water quality (BWQ), assessing and determining extent of acceptable lowering of water quality in a high quality water, and identification of less-degrading or non-degrading alternatives. A waterbody's tier identification may be completed using a parameter-by-parameter or waterbody-by-waterbody approach. Arkansas is implementing a hybrid approach in that Tier 1 and Tier 2 protection will be identified on a parameter-by-parameter basis and Tier 3 protection will be identified on a waterbody-by-waterbody basis (Figure 1).

Tier 1: Existing Use Protection (EUP) the basic protection afforded to all parameters of all waterbodies regardless of current water quality, which is that existing uses will be maintained and protected. ~~EUP applies to those waters meeting the definition of WOTUS as defined for purposes of the federal Clean Water Act.~~

EPA comment: *The effect of the revised Existing Use Protection (EUP) provision appears to limit minimum existing use (Tier 1) protection to only waters of the U.S. as they are defined under current federal regulations. As noted in previous comments, by specifying that existing use protections only apply to waters of the U.S. this provision excludes protections to all other waters of the state. Arkansas Code Annotated (A.C.A. § 8-4-102 et seq.) states that "waters of the state" means all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.. Federal regulations at 40 CFR 131.12 do not limit the state's obligation to protecting only those waters defined as waters of the U.S., and given that the state's Water Quality Act provides a more expansive definition of "waters of the state," EPA recommends deleting the second sentence limiting application of Tier 1 protections to only waters of the U.S., to the exclusion of other waters of the state.*

Tier 2: High Quality Protection (HQP) applies to WOTUS for protection of baseline water quality which is better than the water quality criteria. An activity that proposes significant lowering of water quality would require a demonstration that the lowering of water quality is necessary and Tier 1 protection is ensured. Tier 2 is the default protection for all parameters of all waters, with the exception those parameters or waters that have already been determined to be Tier 1 or Tier 3.

EPA comment: *An activity that proposes significant lowering of water quality would require more than a demonstration that the lowering of water quality is necessary, and that Tier 1 protection is ensured. There are additional steps, including a socio-economic demonstration, assurances of proper pollution control measures, and stakeholder participation. EPA*

recommends revising this definition, as indicated in the track changes above, to clarify that the steps for the demonstration are detailed later in this document.

As noted in our comment on EUP, the intent of the revisions to the High-Quality Protection provision appears to be to limit Tier 2 protection to only waters of the U.S. as defined under current federal regulation. As noted in those comments, by specifying protections for Tier 2/high-quality waters defined as waters of the U.S., this provision excludes protections to all other waters of the state (See ACA §8–4–102 et seq.). Although federal jurisdiction is limited to waters of the U.S., federal regulations do not prohibit the state from applying WQS to all waters of the state. As currently written, many waters of the state, such as wetlands and others that may be critical to maintaining biological integrity and preserving water quality throughout the state would be excluded from protections in conflict with the provisions in Rule 2.102, and 2.501 referring to applicability to all waters at all times. At a minimum, the EPA recommends replacing the reference in the first sentence limiting application of Tier 2 protections to only waters of the U.S., with the phrase “waters of the state.”

Tier 3: Outstanding Resource Waters (ORW) applies to waterbodies listed as an Outstanding Resource Water (ERW, ESW, and NSW) in APC&EC Rule 2. Tier 3 review is required for those waters encompassed by APC&EC Rule 2.203 and 40 CFR § 131.12(a)(3).

TIER PROTECTION LEVELS AND ANTIDegradation EVALUATION

A) Tier 1- Existing Use Protection (EUP) Evaluation

~~Review of Tier 1 review of waters of the state (ACA §8–4–102 et seq.) will be for performed for all parameters of those parameters all WOTUS of WOTUS that are not attaining water quality criteria, including those in . It will also include certain canals/ditches, storm water control structures, and structures purposefully created for effluent conveyance with an existing use attained on or after November 28, 1975, whether or not they are included in the water quality standards. For Tier 1 protection waters, the Antidegradation Policy is implemented through the state’s NPDES Permit Issuance Process, including applicable major modifications (See Section 5). New or expanding activities are not allowed to discharge pollutants that may cause or contribute to impairment of a designated or existing use, violation of water quality criteria, or increase pollutant loading to a § 303(d) listed water.~~

Tier 1 review allows activities to occur according to applicable water quality standards without social and economic analyses. Other statutory, regulatory, or policy (CPP) requirements for the development of appropriate effluent limits and other permit requirements are still applicable.

EPA comment: *Per our prior comments, the intent of the revised Existing Use Protection provision here appears to limit minimum existing use (Tier 1) protection to only waters of the U.S. as defined in current federal regulation. By specifying that existing use protections only apply to waters of the U.S., this provision excludes protections to all other waters of the state*

(See ACA §8–4–101 et seq.). The EPA recommends that the ADEQ specify that the review of Tier 1 waters and reference the definition of waters of the state.

The EPA also recommends the revisions included in track changes above, including deleting the phrase “that are not attaining water quality criteria.” Tier 1 review is performed for all parameters, since it is a part of the Tier 2 review as well. For all WOTUS the state needs to assure that existing uses are protected.

B) Tier 2- High Quality Protection (HQP) Evaluation

~~Review of A~~ Tier 2 ~~review~~waters will be ~~performed~~ for ~~all parameters that are attaining water quality criteria in~~ all ~~waters of the state other~~ WOTUS. By definition, ~~at the~~in high quality waters ~~protection level, where~~the baseline water quality (BWQ) is better than the minimum water quality criteria for one or more water quality parameters. ~~In an evaluation of~~ Tier 2 waters ~~attain water quality criteria for a pollutant of concern. A~~where a significant increase (> 10% of total assimilative capacity) in cumulative pollutant loading ~~is being evaluated, which includes all existing discharges and activities, are~~shall ~~required to be considered as part of a~~ demonstration that the lowering of water quality is ~~necessary~~justified to accommodate important economic or social development in the area in which the waters are located. The demonstration shall include the following items:

EPA comment: *As noted in our comments on the revised Existing Use Protection provision, this provision also appears to limit (Tier 2) protection to only waters of the U.S. as defined under current guidance. Again, we recommend that this provision specify that Tier 2 protections extend to all other waters of the state (See ACA §8–4–102 et seq.). As noted previously, this provision would allow many waters of the state, such as wetlands and others that may be critical to maintaining biological integrity and preserving water quality throughout the state to be excluded from protections in conflict with the provisions in Rule 2.102, and 2.501 referring to applicability to all waters at all times.*

The EPA recommends a number of revisions to the proposed language, included in track changes above. Those recommended changes include deleting the phrase “which includes all existing discharges and activities.” It is unclear whether this refers to the baseline water quality or to the cumulative pollutant loading. EPA recommends deleting this phrase to avoid confusion as “cumulative pollutant loading” captures the idea of a cumulative cap and the requirements for determining BWQ are specified elsewhere. If the ADEQ would like to retain this phrase, it would require clarifying whether this phrasing is referring to the concept of baseline water quality or cumulative pollutant loading.

The EPA also recommends replacing the term “justified” with the term “necessary” because it implies the need to complete an alternatives analysis and also indicates that there are no other practicable options to the lowering of water quality, consistent with 40 CFR 131.12. The use of the word “justifies” does not imply the necessity to lower water quality, and therefore the use of this term here could potentially be interpreted to be inconsistent with 40 CFR 131.12. In addition,

40 CFR 131.12(b) states, “The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State’s policy and with paragraph (a) of this section”. The state’s antidegradation policy includes the following language: “that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located”. EPA recommends using this language to ensure consistency with the state’s policy as required by 40 CFR 131.12(b).

- 1) Lowering water quality is necessaryjustifiable to accommodate important economic or social development in the area where the water is located;
- 2) The highest statutory and regulatory requirements for all new and existing point sources are achieved;
- 3) All cost-effective and reasonable best management practices (BMPs) for nonpoint source control are considered. See Section 9 for additional discussion; and
- 4) Tier 1 protection is ensured.

EPA comment: Reiterates the prior recommendation that in 1), the word “necessary” be used because it implies the need to complete an alternatives analysis and also indicates that there are no other practicable options to the lowering of water quality, consistent with 40 CFR 131.12. The use of the word “justifies” does not imply the necessity to lower water quality, and therefore the use of this term here could potentially be interpreted to be inconsistent with 40 CFR 131.12. In addition, 40 CFR 131.12(b) states, “The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State’s policy and with paragraph (a) of this section”. The state’s antidegradation policy includes the following language: “that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located”. EPA recommends using this language to ensure consistency with the state’s policy as required by 40 CFR 131.12(b). In addition, for 2), EPA recommends including a section that describes how this will be done in Section 8 or creating its own section right after section 8, since this is part of the Tier 2 review.

Decisions regarding significant lowering of water quality of Tier 2 protection levels will only be made after steps 1-4 are completed and after the intergovernmental coordination and public participation provisions have been satisfied.

EPA comment: Recommend that language referencing public participation provisions specifically reference either 40 CFR 25 or Arkansas’s Continuing Planning Process document (2000) which itself references Part 25.

B) Tier 3 Outstanding Resource Waters (ORW) Evaluation

ORWs are in APC&EC Rule No. 2 for their outstanding natural or cultural resource value. ORW waters are designated as ERW, ESW, or NSW (APC&EC 2015, Appendix A, D). An ORW is Tier 3, regardless of baseline water quality for each parameter. A Tier 3 waterbody’s assimilative capacity is to be maintained in order to protect their outstanding natural or cultural value existing uses. Proposed new or expanding activities may proceed, but with no net increase of parameter load. Activities that result in temporary lowering of water quality are eligible for review.

ORWs are in APC&EC Rule 2 for their outstanding natural or cultural resource value. ORW waters are designated as ERW, ESW, or NSW (APC&EC 2015, Appendix A, D). An ORW is Tier 3, regardless of baseline water quality for each parameter. A Tier 3 waterbody's assimilative capacity is to be maintained in order to protect existing uses including recreational or ecological significance. Proposed new or expanding Activities that result in temporary and short-term lowering of water quality with a duration no longer than XX and must be are eligible for review ed prior to state action.

EPA comment: *The premise that an ORW is a Tier 3 water may be based on exceptional recreational and ecological significance is consistent with 40 CFR 131.12(a)(3). However, the federal regulation also requires that "water quality shall be maintained." Thus, new or expanded discharges to ORW/Tier 3 waters are prohibited except as described in the preamble to the regulation, which allows that "States may allow some limited activities which result in temporary and short-term changes in water quality." The only exception to this prohibition as discussed in the preamble to the standards regulation (48 F.R. 51402), allows some limited activities that result in temporary and short-term changes in the water quality of ONRW. Such activities must not permanently degrade water quality or result in water quality lower than that necessary to protect the existing uses in the ONRW. The EPA has acknowledged that it is difficult to give an exact definition of "temporary" and "short-term" because of the variety of activities that might be considered. However, in broad terms, the EPA's view of temporary is weeks and months, not years.*

The provision here indicates that permanent new or expanding discharges are allowable, with the limitation that there be no net increase of load for any parameter. The scenario that a new/expanded discharge will not affect assimilative capacity and thus would be allowable in a Tier 3 water is unlikely and moreover, not "temporary" and "short-term." Further, Tier 3 designation also offers special protection for waters that are important for recreation, unique, or sensitive ecologically, but whose water quality, as measured by the traditional parameters may not be particularly high or whose characteristics cannot be adequately described by these parameters (such as wetlands). The EPA recommends that this provision be revised to make it clear that the intent is to limit water quality degradation to the shortest possible time. Although the last sentence indicates that temporary discharges are eligible for review, the provision should make it clear that such activities should not impact existing uses or alter the essential character or special use that lead to the adoption of the ORW/Tier 3 designated use.

ASSIGNING TIER PROTECTION

C) Tier 1 Protection

D) Tier 2 Protection

Tier 2 protection is assigned on a parameter-by-parameter basis. A Tier 2 review applies to all proposed discharges to WOTUS waters of the State, unless one of the following conditions applies:

- The water is an ORW to which Tier 3 protection applies,
- The discharge is considered insignificant in accordance with the criteria explained in Section 8.B.4 of this document, or

- The receiving water is listed as impaired for a POC on the Arkansas 303(d) List, which requires a Tier 1 review for that POC.

EPA comment: *As noted in previous comments regarding the revised Existing Use Protection provision, this provision also appears to limit (Tier 2) protection to only waters of the U.S. as defined under current regulation. Again, we recommend that this provision specify that Tier 2 protections extend to all waters of the state (See ACA §8–4–102 et seq.). Although federal jurisdiction is limited to waters of the U.S., as noted previously, this provision would allow many waters of the state, such as wetlands and others that may be critical to maintaining biological integrity and preserving water quality throughout the state to be excluded from protections in conflict with the provisions in Rule 2.102, and 2.501 referring to the purpose and applicability water quality standards to all waters at all times.*

E) Tier 3 Protection

Tier 3 protection is assigned on a waterbody-by-waterbody basis to all waters designated as ORWs in APC&EC Rule No. 2. Any degradation of water quality is prohibited in these waters unless the discharge only results in temporary and short-term degradation of water quality with a duration of no longer than {insert duration} and must be reviewed prior to state action.

EPA comment: *Under federal regulation, any water can be assigned ONRW status regardless of water quality, since factors such as ecological or recreational significance are characteristics that the state may wish to protect. EPA recommends the edits above to define the limits of temporary and short-term degradation that may be allowed by the state.*

REVISING TIER PROTECTION LEVELS

The tier protection for a water may change if it is added to or removed from the list of ORWs in APC&EC Rule No. 2. The tier of protection for a pollutant may change if an impairment for that pollutant is added to or removed from the Arkansas 303(d) List.

EPA comment: *Strongly recommend removing or revising this provision because it appears to allow the level of protection afforded to ORWs/Tier 3 waters to be changed based on an impairment from a pollutant. This appears to be inconsistent with Rule 2.106 which defines designated use as specified in in the water quality standards whether or not that use is being attained, and inconsistent with Rule 2.203 which specifies that the “water quality for which the outstanding waterbody was designated shall be protected.” Further, Rule 2.302 specifies that the ORW designated use is a designated use, not simply a descriptive designation. Given this, there is a reasonable expectation that waters that the Commission adopt the ORW designated use based on exceptional water quality, important recreational, unique or sensitive ecological characteristics of those waters and represent an existing use that cannot be removed per 40 CFR 131.10(h)(1).*

The preamble to the water quality standards regulation (48 F.R. 51402) allows some limited activities that result in temporary and short-term changes in the water quality of an ORW/Tier 3

water. However, these activities must not permanently degrade water quality or result in water quality lower than that necessary to protect the existing uses in the ORW/ONRW. As noted previously, there are a variety of activities that may result in a temporary or short term lowering of water quality that may occur over a period of weeks and months but not years. The intent of 40 CFR 131.12(a)(3) is to ensure that waters like Arkansas's ORWs are provided the highest level of protection by prohibiting the lowering of water quality. Tier 3 waters that may not have high water quality as measured by the traditional parameters but are also afforded special protection where characteristics that cannot be adequately described by water quality parameters exist, including important recreational or ecological significance.

ACTIVITIES ELIGIBLE FOR ANTIDEGRADATION REVIEW

General Permits: In an effort to expedite permit timeliness, antidegradation requirements will be incrementally addressed for all general permits during the renewal process within 5 years of approval of this antidegradation implementation procedure. However, activities covered by general permits may still be subject to an antidegradation review if during the application (Notice of Intent) period the activity is determined to likely cause significant degradation.

EPA comment: *Related to prior comments, the term “significant degradation” is not defined, thus, it is unclear what constitutes significant degradation or how it will be determined, or if the phrase is related to or synonymous with the definition of “significant lowering of water quality.”*

General Antidegradation Reviews: the Division may develop a general antidegradation review for small domestic dischargers (generally less than or equal to 50,000 gallons per day) into Tier 2 waters.

EPA comment: *This language appears to refer to a categorical alternative analysis. Although such a categorical alternative analysis may be possible, a “general antidegradation analysis” cannot be done as each receiving water may have very different characteristics. EPA recommends that ADEQ either remove this provision or discuss further with EPA. EPA would like to discuss this further with the state to better understand what is being proposed, as it appears to be a novel idea that no other state has previously implemented.*

ANTIDEGRADATION REVIEW PROCEDURE

B) Basis of Antidegradation Review Procedure

This portion of the chapter outlines the procedure for determining whether or not degradation is justified in WOTUS from regulated discharges/activities. The antidegradation review procedure is based on the following items. See Section 15 below for the Antidegradation Decision Diagram.

EPA comment: *As noted in prior comments, this provision is limited to procedures for determining if degradation is justified in waters of the U.S. and excludes all other waters of the*

state (See ACA §8–4–102 et seq.). Although federal jurisdiction is limited to waters of the U.S., federal regulations at 40 CFR 131.12(a)(2)(i) states that the waters cannot be excluded from the protections as described in paragraph (a)(2). As noted previously, this provision would allow many waters of the state, such as wetlands and others that may be critical to maintaining biological integrity and preserving water quality throughout the state to be excluded from protections in conflict with the provisions in Rule 2.102, and 2.501 referring to purpose and applicability to all waters at all times.

The EPA recommends replacing the word “justified” with “necessary.” The two terms are not interchangeable, as comments on section 4(B) explained above. 40 CFR 131.12(b) states, “The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State’s policy and with paragraph (a) of this section”. The state’s antidegradation policy includes the following language: “that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located”. EPA recommends using the word necessary in this provision to ensure consistency with the state’s policy and 40 CFR 131.12(a) as required by 40 CFR 131.12(b).

3) Assimilative Capacity

Assimilative Capacity is defined in Section 1. The assimilative capacity of a waterbody describes the amount of a pollutant that can be added to that waterbody without causing a violation of water quality criteria or impairing a beneficial use. Tier 1 protection is to maintain existing uses and water quality standards, which assumes no assimilative capacity. Tier 3 protection requires that the assimilative capacity is to be maintained in order to ~~maintain protect~~ existing ~~uses~~ water quality. For Tier 2 protection, the assimilative capacity is protected by evaluating and setting permit limits at critical stream conditions, at discharge design flow conditions, in consideration of background water quality conditions, and in accordance with procedures established in Rule 2 and the CPP. Occasionally, multiple activities exist in close proximity, and the potential pollutant loads for all activities shall be evaluated together.

EPA comment: Recommend replacing the third sentence in the preceding paragraph with the following clarification: “For parameters within a water body that have been assigned Tier 1 protection, no assimilative capacity is available and existing uses and water quality standards will be maintained and protected.” This revision helps to clarify that the protection is being assigned on a parameter-by-parameter basis.

The EPA also recommends the tracked edits above to revise the phrase “protect existing uses” to “maintain existing water quality.” This edit would clarify that tier 3 protects more than existing uses. It protects existing levels of water quality.

In order to determine the remaining assimilative capacity of a waterbody for a significant degradation analysis, the ~~total~~ assimilative capacity must be determined for each water quality parameter each time a new or expanded facility/activity is

considered. The ~~total~~ assimilative capacity for dissolved oxygen is indirectly evaluated through water quality modeling of oxygen-demanding pollutants. Each waterbody has a unique available capacity for each water quality parameter that is derived from Baseline Water Quality (BWQ). BWQ must take into consideration all pollutant contributions from natural sources, permitted point sources (100% of allocation), and nonpoint sources at its time of determination. The ~~total~~ available assimilative capacity is the difference between the water quality criteria and the baseline water quality.

Example of a conservative constituent:

$$\begin{array}{rclcl} \text{water quality criteria} & - & \text{baseline water quality} & = & \text{total assimilative capacity} \\ 10 \text{ mg/L} & & 3 \text{ mg/L} & = & 7 \text{ mg/L} \end{array}$$

10 mg/L= water quality criteria;

3 mg/L= baseline water quality [includes contribution from natural, permitted point sources, and nonpoint sources];

7 mg/L= ~~total~~ assimilative capacity [~~includes contribution from natural, permitted point sources, and nonpoint sources~~].

EPA comment: *The EPA recommends the edits that are reflected in track changes above. EPA recommends deleting the word “total” before assimilative capacity to be consistent with the revision to the title of this section and the removal of the term “total assimilative capacity” from this document. The EPA recommends adding back in the phrase “at its time of determination” in the excerpt above because BWQ is established at a set point in time, and the 10% of assimilative capacity used will be determined from that point forward. EPA also recommends moving the phrase “includes contribution from natural, permitted point sources, and nonpoint sources” from assimilative capacity to BWQ as this seems to be how the state plans to define BWQ based on the sentence, “BWQ must take into consideration all pollutant contributions from natural sources, permitted point sources (100% of allocation), and nonpoint sources.”*

4) Degradation Determination

Documentation

Documentation to support a significant or non-significant lowering of water quality determination may include, but not be limited to, the percent change of the pollutant concentration, loading calculations, or percent reduction of assimilative capacity. For bioaccumulative parameters and other parameters that may impact aquatic biota, a Tier 2 review may still be required even if the discharge is determined to be non-significant. If significant degradation is predicted then this shall be a documented selection of the applicant.

EPA comment: *Given the language, it is unclear if this is suggesting that some type of mass-balance model will be used to determine whether the degradation will be significant or if this is referring to a situation where a discharger could decide to assume degradation is significant and proceed with a Tier 2 review.*

Consumption of *less than* or equal to 10% of the assimilative capacity

The applicant may demonstrate the discharge consumes less than 10% of the assimilative capacity through the use of existing water quality data. Unless there is a potential for bioaccumulation or impacts to aquatic biota, no alternatives analysis or socioeconomic impact review is required. This analysis must be done on a cumulative basis and must incorporate all degradation from all activities that have occurred in this water body since the determination of the BWQ. In the cases where there is potential for bioaccumulation or impacts to aquatic biota may be present, an antidegradation review may be required.

EPA Comment: Per the EPA's previous comment on this provision, we recommend adding the text "This analysis must be done on a cumulative basis and must incorporate all degradation from all activities that have occurred in this water body since the determination of the BWQ. In the cases where there is potential for bioaccumulation or impacts to aquatic biota may be present, an antidegradation review may be required." Judicial decisions have indicated that the use of a de minimis provision is only acceptable when the use of assimilative capacity is considered on a cumulative basis.

Consumption of *greater than* 10% of the assimilative capacity

A permit applicant may proceed without calculation of total assimilative capacity if it is predicted that significant degradation will occur. The applicant may proceed with submitting an alternatives analysis and social-economic impact analysis (Section 8.B.5). Once 10% of the assimilative capacity determined at the time that the BWQ was established has been utilized, all subsequent activities that result in a new or increased discharge must undergo a Tier 2 review.

EPA comment: Recommend adding the tracked text above to clearly indicate that there is a cumulative cap for the de minimis provision.

Consumption of Dissolved Oxygen Sag

Consumption of the total assimilative capacity for oxygen-demanding pollutants is calculated based on the dissolved oxygen sag in a steady state water quality model.

EPA comment: Please specify what water quality model is referred to here.

a) Alternatives Analysis

An applicant proposing any new or expanded discharge or activity that would significantly lower water quality is required to prepare an evaluation of alternatives. The purpose of this evaluation is to determine practicable alternative(s) that would prevent or limit the degradation associated with the proposed activity. Alternatives are compared to practicability, available technology, and affordability to the controls required for protecting [beneficial existing](#) uses and achieving highest statutory and regulatory requirements. Alternatives to be considered should include but are not limited to:

EPA comment: Recommend revising the paragraph above as tracked, changing existing uses to beneficial uses to indicate the protection of both designated and existing uses.

- i) Product or raw material substitution;
- ii) Improved operation and maintenance of existing treatment;
- iii) Installation of biological/physical/chemical treatment process that provide higher level of treatment;
- iv) Water conservation measures; and
- v) Other alternatives.

If experimental or unproven methods are proposed, DEQ may request information on previous applications of the method, effectiveness, transferability (if applicable), costs and other information as appropriate. Applications containing proposals for new or experimental methods will be required to append information regarding likely performance results. Such applications may be approved at Director's discretion with the condition that if the proposed technology does not meet project pollutant control targets, the applicant must adopt conventional or other pollution control measures that meet state antidegradation requirements. DEQ may require that the applicant analyze additional alternatives if an appropriate range of alternatives were not evaluated. DEQ staff and the applicant should meet to discuss these and other issues early in the process. The applicant should also document any alternatives that were determined to be impracticable and provide a basis for the conclusion. [If practicable alternatives are identified, the lowering of water quality in a high-quality water will only be authorized if one of those alternatives is selected for implementation.](#)

EPA Comment: Recommend the inclusion of the tracked sentence above to ensure consistency of the AIMS with 40 CFR 131.12(a)(ii), as required by 40 CFR 131.12(b), which states: "(b) The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State's policy and with paragraph (a) of this section."

40 CFR 131.12(a)(ii) states: (ii) Before allowing any lowering of high water quality, pursuant to paragraph (a)(2) of this section, the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.

b) Social Development Analysis

Social-economic, environmental, or public health issues may be considered when lowering water quality. This analysis is not necessary if a non-degrading or non-significant degrading alternative is chosen. Factors to be considered by the applicant in making a determination include but may not be limited to::

- i) Employment (e.g. increasing production and jobs, maintaining, or avoiding reduction in employment, permanent or short-term);
- ii) Improved community tax base;
- iii) Abatement of an environmental or public health problem;
- iv) Providing a social benefit to the community;
- v) Increasing or improving housing; and
- vi) Providing necessary public services (e.g., fire department, school, infrastructure).

EPA comment: Recommend that ADEQ provide additional detail to specify who is responsible for conducting the social development analysis and, at what point in the review process it will be conducted.

c) Economic Analysis

Alternatives that are deemed practicable must undergo a present worth cost comparison. An analysis of pollution control costs, or economic efficiency, is appropriate when the applicant desires to optimize the balance between water quality benefits and project costs. General cost categories that should be considered include capital cost, annual operating and maintenance cost, customer costs, and debt service.

In order to develop a standardized framework for projecting, evaluating, and comparing costs associated with various pollution control alternatives, applicants should use a 20-year life cycle present worth framework for reporting cost information. However, applicants may propose alternate economic demonstrations if appropriate. Alternative direct cost comparisons may be presented if the present worth calculation is complicated by the amount of difference in the effective design longevity of the alternatives examined.

The Division has developed a worksheet for guidance in calculating costs. The worksheet or an alternative cost analysis should be completed and submitted with the antidegradation review.
{ADD REFERENCE}

EPA Comment: Recommend that ADEQ provide a draft of this worksheet to EPA and the public for review prior to finalizing.

Base cost is considered the minimum cost to achieve water quality standards. As a non-binding guideline, alternatives costing less than 120 percent of the base cost are presumed to be considered economically efficient. This economic efficiency guideline presumes that the reduction of pollutant loads below the minimum level of pollution control has an environmental benefit which warrants the increased expenditure.

Following the evaluation of alternatives, the applicant must provide a basis for the selected alternative. This selection must be based on the practicability, economic efficiency, and social benefits of the alternative.

EPA comment: Recommend that ADEQ develop a range of practicable alternatives and then use the difference in cost from base cost to select an alternative for implementation. With regard to the second paragraph, EPA recommends moving this into the “Alternatives Analysis” section. All alternatives that are evaluated should be practicable – the alternatives analysis is the step of the Tier 2 review that shows that degradation is “necessary; the socioeconomic analysis is a separate piece that shows that the allowable degradation is “important.”

IMPLEMENTATION OF CONTROLS FOR NONPOINT POLLUTION SOURCES

EPA’s regulatory interpretation of 40 CFR§131.12(a)(2) is that federal Antidegradation Policy does not require DEQ to establish BMPs for nonpoint source pollution control where regulatory programs requiring BMPs do not exist. The CWA leaves it to the states to determine what, if any, controls on nonpoint sources are needed to provide for attainment of state WQS. States may adopt regulatory or voluntary programs to address nonpoint sources of pollution. Where a state has adopted a regulatory program for nonpoint source pollution control, the state must assure that such controls are properly implemented before authorization is granted to justify lowering of water quality.

EPA comment: Similar to this section for nonpoint source pollution, with regard to allowing lowering of water quality in a high-quality waters, the EPA recommends the state lay out the steps for assuring the highest statutory and regulatory requirements for point sources are achieved and also assuring that the lowering that is being authorized will not impair existing uses as required by 40 CFR 131.12(a)(2). These are both requirements included in the state’s policy: “In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that (1) there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and (2) that the provisions of the Arkansas Water Quality Management Plan be implemented with regard to nonpoint sources.”







DEQ and the Arkansas Department of Agriculture provide cooperative oversight of nonpoint pollution sources and waters that are impaired by nonpoint sources. Nutrient Management Plans for permits/activities are one of the avenues used for addressing nonpoint pollution from liquid animal waste in nutrient surplus areas. The Arkansas Department of Agriculture requires waste management plans for non-liquid systems. The controlling agencies assure compliance through regulatory programs applicable to such activities. Activities (e.g. agriculture, silviculture) resulting in a new or expanded amount of pollutants entering waters solely from nonpoint sources are not subject to an antidegradation review prior to these activities commencing.

EPA comment: With regard to controlling agencies, please explain how ADEQ will communicate with these controlling agencies to assure compliance with the applicable regulatory programs before authorizing lowering of water quality.

ATTACHMENT 2

FLOW SEVERITY

Table 3.2. Flow-severity values.

	Severity Value	Description
1		<p>No Flow. When a flow severity of 1 is recorded for a sampling visit, record a flow value of 0 ft³/s (using parameter code 00061) for that sampling visit. A flow severity of 1 describes situations where the stream has water visible in isolated pools. There should be no obvious shallow subsurface flow in sand or gravel beds between isolated pools. "No flow" not only applies to streams with pools, but also to long reaches of streams that have water from bank to bank but no detectable flow.</p>
2		<p>Low Flow. When streamflow is considered low, record a flow-severity value of 2 for the visit, along with the corresponding flow measurement (parameter code 00061). In streams too shallow for a flow measurement where water movement is detected, record a value of < 0.10 ft³/s. In general, at low flow the stream would be characterized by flows that don't fill the normal stream channel. Water would not reach the base of both banks. Portions of the stream channel might be dry. Flow might be confined to one side of the stream channel.</p> <p><i>Note:</i> Use a stick or other light object to verify the direction of water movement. Make sure the movement is downstream and not the effect of wind.</p>
3		<p>Normal Flow. When streamflow is considered normal, record a flow severity value of 3 for the visit, along with the corresponding flow measurement (parameter code 00061). What is normal is highly dependent on the stream. Normality is characterized by flow that stays within the confines of the normal stream channel. Water generally reaches the base of each bank.</p>
4		<p>Flood Flow. Flow-severity values for high and flood flows have long been established by the EPA and are not sequential. Flood flow is reported as a flow severity of 4. Flood flows are those that leave the confines of the normal stream channel and move out onto the floodplain (either side of the stream).</p>
5		<p>High Flow. High flows are reported as a flow severity of 5. High flow would be characterized by flows that leave the normal stream channel but stay within the stream banks.</p>
6		<p>Dry. When the stream is dry, record a flow-severity value of 6 for the sampling visit. In this case the flow (parameter code 00061) is not reported, indicating that the stream is completely dry with no visible pools.</p>

ATTACHMENT 3
TOXIC SUBSTANCES
STATE EXAMPLE

Consistent with requirements at 40 CFR 131.20(a) the tables below list the new or updated Clean Water Act section 304(a) criteria since May 30, 2000 that the state has not adopted and presents an explanation regarding future consideration of the criteria.

Aquatic Life Criteria		
Pollutant	CAS Number	Explanation
Tributyltin (TBT)	—	State program priorities (e.g. water reuse) and other current projects combined with limited staff resources deferred consideration of this criterion. This criterion will potentially be considered during the 2019 - 2021 water quality standards revision period.
Copper	7440508	State program priorities (e.g. water reuse) and other current projects combined with limited staff resources deferred consideration of this criterion. This criterion will potentially be considered during the 2019 - 2021 water quality standards revision period.
Acrolein	107028	State program priorities (e.g. water reuse) and other current projects combined with limited staff resources deferred consideration of this criterion. This criterion will potentially be considered during the 2019 - 2021 water quality standards revision period.
Carbaryl	63252	State program priorities (e.g. water reuse) and other current projects combined with limited staff resources deferred consideration of this criterion. This criterion will potentially be considered during the 2019 - 2021 water quality standards revision period.
Ammonia	7664417	As part of the FY16 604(b) C6-40000054 workplan, OWRB is currently conducting pre-criteria technical work in support of the goal to propose numeric ammonia criteria to protect aquatic life. The intent of this technical work is to address expected challenges regarding criteria necessity and develop implementation provisions. Pre-criteria technical work is expected to continue for approximately three years.
Selenium	7782492	OWRB anticipates consideration of this criterion as part of the 2018 Triennial Review of Water Quality Standards.

Human Health Criteria		
Pollutant	CAS Number	Explanation
Pathogen and Pathogen Indicators	—	State program priorities (e.g. water reuse) and other current projects combined with limited staff resources deferred consideration of this criterion. This criterion will potentially be considered during the 2019 - 2021 water quality standards revision period.

Human Health Criteria		
Pollutant	CAS Number	Explanation
Methylmercury	22967926	As part of the FY16 604(b) C6-40000054 workplan, consideration of this criterion and associated implementation provisions is currently underway. It is expected that this criterion will be proposed as part of the 2017-2018 Water Quality Standards Rulemaking.
1,1,1-Trichloroethane	71556	Constituents included in the 2015 EPA update of 304(a) human health criteria were published after OWRB staff had initiated the 2015-2016 Triennial Review of Water Quality Standards. Therefore, these updated criteria were not addressed in the 2015-2016 Triennial Review of Water Quality Standards. OWRB expects to consider all or a portion of these human health criteria as part of the 2018 - 2019 Triennial Revision of Water Quality Standards and additional revisions, as necessary.
1,1,2,2-Tetrachloroethane	79345	
1,1,2-Trichloroethane	79005	
1,1-Dichloroethylene	75354	
1,2,4,5-Tetrachlorobenzene	95943	
1,2,4-Trichlorobenzene	120821	
1,2-Dichlorobenzene	95501	
1,2-Dichloroethane	107062	
1,2-Dichloropropane	78875	
1,2-Diphenylhydrazine	122667	
1,3-Dichlorobenzene	541731	
1,3-Dichloropropene	542756	
1,4-Dichlorobenzene	106467	
2,4,5-Trichlorophenol	95954	
2,4,6-Trichlorophenol	88062	
2,4-Dichlorophenol	120832	
2,4-Dimethylphenol	105679	
2,4-Dinitrophenol	51285	
2,4-Dinitrotoluene	121142	
2-Chloronaphthalene	91587	
2-Chlorophenol	95578	
2-Methyl-4,6-Dinitrophenol	534521	
3,3'-Dichlorobenzidine	91941	
3-Methyl-4-Chlorophenol	59507	
Acenaphthene	83329	
Acrolein	107028	
Acrylonitrile	107131	
Aldrin	309002	
alpha-Endosulfan	959988	
alpha-Hexachlorocyclohexane (HCH)	319846	
Anthracene	120127	
Antimony	7440360	
Benzene	71432	
Benzidine	92875	
Benzo(a)anthracene	56553	

Human Health Criteria		
Pollutant	CAS Number	Explanation
Benzo(a)pyrene	50328	<p>Constituents included in the 2015 EPA update of 304(a) human health criteria were published after OWRB staff had initiated the 2015-2016 Triennial Review of Water Quality Standards. Therefore, these updated criteria were not addressed in the 2015-2016 Triennial Review of Water Quality Standards. OWRB expects to consider all or a portion of these human health criteria as part of the 2018 - 2019 Triennial Revision of Water Quality Standards and additional revisions, as necessary.</p>
Benzo(b)fluoranthene	205992	
Benzo(k)fluoranthene	207089	
beta-Endosulfan	33213659	
beta-Hexachlorocyclohexane (HCH)	319857	
Bis(2-Chloro-1-methylethyl) Ether	108601	
Bis(2-Chloroethyl) Ether	111444	
Bis(2-Ethylhexyl) Phthalate	117817	
Bis(Chloromethyl) Ether	542881	
Bromoform	75252	
Butylbenzyl Phthalate	85687	
Carbon Tetrachloride	56235	
Chlordane	57749	
Chlorobenzene	108907	
Chlorodibromomethane	124481	
Chloroform	67663	
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93721	
Chlorophenoxy Herbicide (2,4-D)	94757	
Chrysene	218019	
Cyanide	57125	
Dibenzo(a,h)anthracene	53703	
Dichlorobromomethane	75274	
Dieldrin	60571	
Diethyl Phthalate	84662	
Dimethyl Phthalate	131113	
Di-n-Butyl Phthalate	84742	
Dinitrophenols	25550587	
Endosulfan Sulfate	1031078	
Endrin Aldehyde	7421934	
Endrin	72208	
Ethylbenzene	100414	
Fluoranthene	206440	
Fluorene	86737	
gamma-Hexachlorocyclohexane (HCH) [Lindane]	58899	
Heptachlor Epoxide	1024573	
Heptachlor	76448	
Hexachlorobenzene	118741	

Human Health Criteria		
Pollutant	CAS Number	Explanation
Hexachlorobutadiene	87683	<p>Constituents included in the 2015 EPA update of 304(a) human health criteria were published after OWRB staff had initiated the 2015-2016 Triennial Review of Water Quality Standards. Therefore, these updated criteria were not addressed in the 2015-2016 Triennial Review of Water Quality Standards. OWRB expects to consider all or a portion of these human health criteria as part of the 2018 - 2019 Triennial Revision of Water Quality Standards and additional revisions, as necessary.</p>
Hexachlorocyclohexane (HCH) - Technical	608731	
Hexachlorocyclopentadiene	77474	
Hexachloroethane	67721	
Indeno(1,2,3-cd)pyrene	193395	
Isophorone	78591	
Methoxychlor	72435	
Methyl Bromide	74839	
Methylene Chloride	75092	
Nitrobenzene	98953	
Nitrosodibutylamine	924163	
Nitrosodiethylamine	55185	
Nitrosopyrrolidine	930552	
N-Nitrosodimethylamine	62759	
N-Nitrosodi-n-Propylamine	621647	
N-Nitrosodiphenylamine	86306	
p,p'-Dichlorodiphenyldichloroethane (DDD)	72548	
p,p'-Dichlorodiphenyldichloroethylene (DDE)	72559	
p,p'-Dichlorodiphenyltrichloroethane (DDT)	50293	
Pentachlorobenzene	608935	
Pentachlorophenol	87865	
Phenol	108952	
Polychlorinated Biphenyls (PCBs)		
Pyrene	129000	
Selenium	7782492	
Tetrachloroethylene	127184	
Toluene	108883	
Toxaphene	8001352	
Trans-1,2-Dichloroethylene	156605	
Trichloroethylene	79016	
Vinyl Chloride	75014	

Louisiana Department of Environmental Quality (LDEQ) 2016 Triennial Revision Actions on Clean Water Act (CWA) 304(a) New and Updated Criteria Recommendations Published by the Environmental Protection Agency (EPA) since May 30, 2000

November 22, 2019

This document describes Louisiana's actions for all parameters having new or updated criteria recommendations published by the EPA since May 30, 2000 through the initiation of the 2016 triennial revision. All CWA 304(a) criteria recommendations were reviewed for the 2016 triennial revision. Data collected from the ambient surface water quality monitoring program (and other special water quality monitoring projects), and EPA criteria recommendation documents were used to inform the agency on actions for the 2016 triennial revision.

Criteria recommendations published after the initiation of the 2016 triennial revision were not considered in this review, including aluminum (2018) and cyanotoxins (2019). Criteria recommendations the agency will propose for adoption will be included in proposed rule WQ097. WQ097 is expected to be published for public review and comment in the Louisiana Register in December 2019.

Aquatic Life Criteria (ALC) Recommendations

Criteria Recommendations with Existing ALC

Substance	CAS #	Action
Cadmium	7440-43-9	LDEQ efforts to revise cadmium ALC are ongoing. Cadmium ALC recommendation was published by EPA in 2016. The agency is evaluating EPA's species recalculation procedure.
Copper	7440-50-8	LDEQ efforts to revise copper freshwater ALC are ongoing. Copper freshwater ALC recommendation was published by EPA in 2007. Use of the biotic ligand model (BLM) to develop site-specific criteria is proposed in WQ097; however, additional water quality monitoring data is needed to inform appropriate use of the model.

Criteria Recommendations without Existing ALC

Substance	CAS #	Action
Ammonia	7664-41-7	LDEQ efforts to develop ammonia freshwater ALC are complete. EPA published ammonia freshwater ALC in 2013. Ammonia freshwater ALC is proposed in WQ097.
Selenium	7782-49-2	LDEQ efforts to develop selenium freshwater ALC are ongoing. Selenium freshwater ALC recommendations were published by EPA in 2016. The agency is evaluating EPA's recommendations.
Nutrients	N/A	LDEQ efforts regarding nutrient criteria are ongoing. LDEQ is evaluating translators for the narrative nutrient criteria through determination of thresholds for inland rivers and streams, and inland lakes and reservoirs.
Acrolein	107-02-8	No action warranted for the 2016 triennial revision. Substances were not sampled by the agency from 2006 to 2016; insufficient data found from other water quality monitoring sources. HHC recommendations published by EPA for acrolein in 2009, carbaryl in 2012, diazinon and nonylphenol in 2005, and tributyltin in 2004. LDEQ will reevaluate criteria recommendations with next triennial revision.
Carbaryl	63-25-2	
Diazinon	333-41-5	
Nonylphenol	84852-15-3	
Tributyltin (TBT)	N/A	

Human Health Criteria (HHC) Recommendations

Criteria Recommendations with Existing HHC

Substance	CAS #	Action
Pathogen and Pathogen Indicators	N/A	LDEQ efforts to develop recreational water quality criteria related to pathogen and pathogen indicators were promulgated in 2016, through WQ092. EPA published recommendations in 2012.
Aldrin	309-00-2	LDEQ efforts to revise HHC are ongoing. The agency is evaluating EPA's recommended update to HHC methodology published in 2000; particularly the use of bioaccumulation factors in place of bioconcentration factors to derive HHC.
Arsenic	7440-38-2	
Benzene	71-43-2	
Benzidine	92-87-5	
Bromodichloromethane	75-27-4	
Bromoform (Tribromomethane)	75-25-2	
Cadmium	7440-43-9	

Substance	CAS #	Action
Carbon Tetrachloride (Tetrachloromethane)	56-23-5	
Chlordane	57-74-9	
Chloroform (Trichloromethane)	67-66-3	
2-Chlorophenol	95-57-8	
3-Chlorophenol	108-43-0	
4-Chlorophenol	106-48-9	
Chromium III	10025-73-7	
Chromium VI	18540-29-9	
Copper	7440-50-8	
Cyanide	57-12-5	
DDE	72-55-9	
DDT	50-29-3	
Dibromochloromethane	124-48-1	
1,2-Dichloroethane (EDC)	107-06-2	
1,1-Dichloroethylene	75-35-4	
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	
2,3-Dichlorophenol	576-24-9	
2,4-Dichlorophenol	120-83-2	
2,5-Dichlorophenol	583-78-8	
2,6-Dichlorophenol	87-65-0	
3,4-Dichlorophenol	95-77-2	
1,3-Dichloropropane	542-75-6	
Dieldrin	60-57-1	
Endosulfan	115-29-7	
Endrin	72-20-8	
Ethylbenzene	100-41-4	
Heptachlor	76-44-8	
Hexachlorobenzene	118-74-1	
Hexachlorobutadiene	87-68-3	
Hexachlorocyclohexane (gamma BHC; Lindane)	58-89-9	
Lead	7439-92-1	
Mercury	7439-97-6	
Methylene chloride (Dichloromethane)	75-09-2	
Phenol (Total)	108-95-2	
Polychlorinated Biphenyls, Total (PCB's)	1336-36-3	
TDE (DDD)	72-54-8	
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD)	1746-01-6	

Substance	CAS #	Action
1,1,2,2-Tetrachloroethane	79-34-5	
Tetrachloroethylene	127-18-4	
Toluene	108-88-3	
Toxaphene	8001-35-2	
1,1,1-Trichloroethane	71-55-6	
1,1,2-Trichloroethane	79-00-5	
Trichloroethylene	79-01-6	
2-(2,4,5-Trichlorophenoxy) propionic acid (2,4,5-TP; Silvex)	93-72-1	
Vinyl Chloride (Chloroethylene)	75-01-4	
Zinc	7440-66-6	

Criteria Recommendations without Existing HHC

Substance	CAS #	Action
Bis(2-Ethylexyl) Phthalate	117-81-7	The LDEQ is evaluating the development of Bis(2-ethylexyl) Phthalate HHC. HHC recommendation published by EPA in 2015. Nine detections of substance were measured in the Mississippi River from 2006 to 2016 at four monitoring sites. Effort to develop HHC for this substance will advance after completion of bioaccumulation factor evaluation.
Dimethyl Phthalate	131-11-3	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with one detection at a site on Mississippi River in June 2009. LDEQ will reevaluate criteria recommendation with next triennial revision.
Di-n-Butyl Phthalate	84-74-2	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with two detections on the same day at two Mississippi River sites in October 2008. LDEQ will reevaluate criteria recommendation with next triennial revision.

Substance	CAS #	Action
Endrin Aldehyde	7421-93-4	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with one detection in Mississippi River in November 2014. LDEQ will reevaluate criteria recommendation with next triennial revision.
Fluoranthene	206-44-0	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with one detection measured in an unnamed roadside ditch in August 2013. LDEQ will reevaluate criteria recommendation with next triennial revision.
Methyl Bromide	74-83-9	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with seven detections were observed at seven sites from August 2006 to October 2013. LDEQ will reevaluate criteria recommendation with next triennial revision.
1,2,4-Trichlorobenzene	120-82-1	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with one detection in the Mississippi River in September 2009. LDEQ will reevaluate criteria recommendation with next triennial revision.
1,2-Dichlorobenzene	95-50-1	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with three detections at three sites from March 2007 to October 2011. LDEQ will reevaluate criteria recommendation with next triennial revision.
1,2-Dichloropropane	78-87-5	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with two detections at two sites in April 2009 and June 2009. LDEQ will reevaluate criteria recommendation with next triennial revision.

Substance	CAS #	Action
1,3-Dichlorobenzene	541-73-1	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with one detection in the Ouachita River in July 2010. LDEQ will reevaluate criteria recommendation with next triennial revision.
1,4-Dichlorobenzene	106-46-7	No action warranted for the 2016 triennial revision. HHC recommendation published by EPA in 2015. Most results were non-detects from 2006 to 2016, with six detections at six sites from July 2006 to July 2010. LDEQ will reevaluate criteria recommendation with next triennial revision.
Acrolein	107-02-8	No action warranted for the 2016 triennial revision. Substances were not sampled by the agency from 2006 to 2016; insufficient data found from other water quality monitoring sources. HHC recommendations published by EPA for most substances in 2015; methylmercury in 2001, antimony, Nitrosodiethylamine, N, Nitrosodipyrrolidine, N, N-Nitrosodiphenylamine, and selenium in 2002 and thallium in 2003. LDEQ will reevaluate criteria recommendations with next triennial revision.
Acrylonitrile	107-13-1	
Antimony	7440-36-0	
Bis(Chloromethyl) Ether	542-88-1	
Dinitrophenols	25550-58-7	
Hexachlorocyclohexane (HCH)- Technical	608-73-1	
Methylmercury	22967-92-6	
Nitrosodiethylamine, N	55-18-5	
Nitrosopyrrolidine, N	930-55-2	
N-Nitrosodiphenylamine	86-30-6	
Selenium	7782-49-2	
Thallium	7440-28-0	
Acenaphthene	83-32-9	No action warranted for the 2016 triennial revision. All results were non-detects from 2006 to 2016; insufficient data found from other water quality monitoring sources. LDEQ will reevaluate criteria recommendations with next triennial revision.
alpha-Hexachlorocyclohexane (HCH)	319-84-6	
Anthracene	120-12-7	
Benzo(a)anthracene	56-55-3	
Benzo(a)pyrene	50-32-8	
Benzo(b)fluoranthene	205-99-2	
Benzo(k)fluoranthene	207-08-9	
beta-Hexachlorocyclohexane (HCH)	319-85-7	
Bis(2-Chloro-1-methylethyl) Ether	108-60-1	
Bis(2-Chloroethyl) Ether	111-44-4	
Butylbenzyl Phthalate	85-68-7	
Chlorobenzene	108-90-7	
Chrysene	218-01-9	

Substance	CAS #	Action
Dibenzo(a,h)anthracene	53-70-3	
Diethyl Phthalate	84-66-2	
Fluorene	86-73-7	
Heptachlor Epoxide	1024-57-3	
Hexachlorocyclopentadiene	77-47-4	
Hexachloroethane	67-72-1	
Indeno(1,2,3-cd)pyrene	193-39-5	
Isophorone	78-59-1	
Methoxychlor	72-43-5	
Nitrobenzene	98-95-3	
Nitrosodibutylamine, N	924-16-3	
N-Nitrosodimethylamine	62-75-9	
N-Nitrosodi-n-Propylamine	621-64-7	
Pentachlorobenzene	608-93-5	
Pentachlorophenol	87-86-5	
Pyrene	129-00-0	
1,2,4,5-Tetrachlorobenzene	95-94-3	
1,2-Diphenylhydrazine	122-66-7	
Trans-1,2-Dichloroethylene	156-60-5	
2,4,5-Trichlorophenol	95-95-4	
2,4,6-Trichlorophenol	88-06-2	
2,4-Dimethylphenol	105-67-9	
2,4-Dinitrotoluene	121-14-2	
2-Chloronaphthalene	91-58-7	
2-Methyl-4,6-Dinitrophenol	534-52-1	
3-3'-Dichlorobenzidine	91-94-1	
3-Methyl-4-Chlorophenol	59-50-7	

ATTACHMENT 4

**COFFEE CREEK AND MOSSY LAKE
USE DESIGNATION**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1201 Elm Street, SUITE 500
DALLAS, TEXAS 75270

July 31, 2019

Mary Barnett
Ecologist Coordinator
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Dear Ms. Barnett:

As agreed upon by the Environmental Protection Agency (EPA) Region 6 and Arkansas Department of Environmental Quality (ADEQ) staff, your office provided me with a copy of draft revisions to Regulation 2 that ADEQ plans to propose later this year and asked EPA staff to identify any significant concerns EPA may have prior to ADEQ's submission of the proposed revisions to Governor Hutchinson's office. As previously discussed, EPA will submit official comments and/or recommendations on ADEQ's revisions to Regulation 2 during the public comment period once they are proposed, which will likely occur in October 2019. However, based on our informal review of the draft revisions, EPA staff have identified several significant concerns related to revised language in Appendix A regarding Coffee Creek and Mossy Lake that we would like to bring to your attention.

The EPA and ADEQ have previously discussed EPA's concern that ADEQ specify updated designated uses for Coffee Creek and Mossy Lake in accordance with 40 CFR 131.10(i) and 131.20(a). See Miguel Flore's March 6, 2009 letter to Steve Drown, April 27, 2010 and September 13, 2010 letters to Teresa Marks letter and Jane Watson's July 31, 2009 letter to Steve Drown and August 3, 2010 letter submitting recommendations to ADEQ for its 2014 triennial revisions as they relate to these waters. Through the agencies' exchange of letters, as well as in telephone and face-to-face conversations, EPA and ADEQ have discussed various options for reaching resolution on these concerns. Consistent with our previous discussions, EPA has identified the following concerns with the draft revisions in Appendix A:

1. The draft revisions specific to Mossy Lake and the portion of Coffee Creek below Mossy Lake indicate that no "fishable/swimmable aquatic life uses" (CWA 101(a)(2) uses) apply to these waters. Although 101(a)(2) uses were removed from these water bodies in the 1980s, 40 CFR 131.20(a) requires states to "re-examine any water body segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act every 3 years to determine if new information is available. If such new information indicates that the uses specified in section 101(a)(2) of the Act are attainable, the State shall revise its standards accordingly." EPA's 2007 use attainability analysis (UAA) documented both fish and macroinvertebrates as present year-round throughout Coffee Creek and in Mossy Lake. GP's 2013 UAA documented macroinvertebrates as present year-round. (Fish were documented in one of two sampling events, but the authors admit that non-detect of fish during the second sampling event may have been due to

methodological flaws). These studies confirm that there is an existing aquatic life use year-round throughout Coffee Creek and in Mossy Lake. 40 CFR 131.10(i) specifies that where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained. EPA's 2007 UAA also concluded that Coffee Creek upstream of Mossy Lake and Mossy Lake may be able to sustain a diverse aquatic community during and after inundation by the Ouachita River and a limited aquatic community during the annual dry seasons, and that Coffee Creek below Mossy Lake is likely to sustain a viable and diverse aquatic community within the back waters of the Ouachita River. In light of the findings of the most recent UAAs, EPA recommends that ADEQ re-examine whether maintaining no aquatic life uses on Mossy Lake and Coffee Creek below Mossy Lake is consistent with the requirements of 40 CFR 131.10(i) and 131.20(a). If ADEQ maintains its current position, please provide supporting justification to EPA.

2. The draft revisions specific to Coffee Creek include addition of a seasonal aquatic life use for a portion of the stream above Mossy Lake. It is unclear if the intended seasonal use for this waterbody segment is the state's Gulf Coastal Ecoregion aquatic life use. EPA recommends that ADEQ add language to clarify whether the intended seasonal use is the Gulf Coastal Ecoregion aquatic life use or some other use and specify the dates or in some other way clearly identify the period of time when it is intended to apply.
3. The draft revisions do not specify an aquatic life use that would apply to Coffee Creek above Mossy Lake during the season when the unspecified "seasonal use" does not apply. As noted above, EPA's 2007 found that some form of aquatic life use is both existing and attainable in this segment of Coffee Creek year-round. The UAA developed by AquAeTer funded by Georgia-Pacific in 2013 did not refute EPA's 2007 UAA indicating that the Gulf Coastal Ecoregion designated use is attainable in Coffee Creek and Mossy Lake during the wet season and that a limited use may be attained during the dry season. In light of the findings of both UAAs and 40 CFR 131.10(i)'s requirement that designated uses must at a minimum reflect the uses actually being attained, EPA recommends that ADEQ identify the aquatic life uses that will apply to Coffee Creek above Mossy Lake throughout the entire year. Alternately, please provide justification to support ADEQ's determination that 101(a)(2) uses are not attainable for this water body segment during that part of the year not covered by the seasonal use.
4. The EPA also recommends that ADEQ evaluate the attainability of recreation uses in these waters, in accordance with 131.20(a) and 131.10(i). For the Gulf Coastal Ecoregion, Arkansas designates for primary contact recreation use "all streams with watersheds greater than 10 mi² and all lakes/reservoirs" (Regulation No. 2 at A-29). According to the 2007 EPA UAA, Mossy Lake is 550 acres and Coffee Creek has a watershed well over 25 square miles (1-3 EPA 2007). Therefore, all of Coffee Creek and Mossy Lake meet the Regulation 2 requirements for full Primary Contact Recreation designation.
5. Please clarify what designated uses apply to the segment of Coffee Creek south of the canal and north of Mossy Lake. If ADEQ includes this segment of Coffee Creek in the

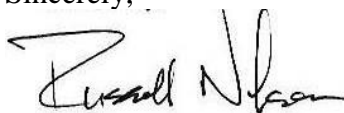
same waterbody segment as Mossy Lake, EPA recommends that ADEQ clarify this explicitly in the waterbody segment description for Mossy Lake.

6. The draft revisions refer to Mossy Lake in several instances as a “treatment unit.” Adoption of a “treatment unit” designated use appears to be in contravention of 40 CFR 131.10(a), which states “[I]n no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.” In addition, Footnotes No. 2 and 5 state that “Mossy Lake Treatment Unit - Mossy Lake Treatment Unit has been permitted as part of Georgia-Pacific treatment system through NPDES Permit No. AR0001210 and is a water of the state that is exempt from Rule 2.406 and Chapter Five (GC-3, #8).” EPA believes this footnote is inaccurate. EPA records do not indicate that Mossy Lake is currently permitted as a treatment unit, but instead shows Coffee Creek above Mossy Lake to be the receiving stream under GP Crossett’s current NPDES waste water permit. The phrase “treatment unit” should be deleted from the draft revised description of Mossy Lake in all instances.

In conclusion, although Georgia-Pacific funded the development of a UAA for these waters in 1987, 40 CFR 131.20(a) directs states to re-evaluate waterbodies without CWA §101(a)(2) uses every three years to determine if new information is available, and 40 CFR 131.10(i) directs states to revise its WQS to reflect the uses actually being attained where existing WQS specify designated uses less than those which are presently being attained. The EPA’s UAA and Water Quality Assessment (2007) demonstrate that Coffee Creek and Mossy Lake currently support and have the potential to support aquatic life indicative of streams in the Gulf Coastal Ecoregion year-round. The UAA developed by AquAeTer funded by Georgia-Pacific in 2013 did not refute the EPA’s 2007 UAA indicating that the Gulf Coastal Ecoregion designated use is attainable in Coffee Creek and Mossy Lake.

The EPA recommends that the ADEQ revise the draft proposed revisions to its water quality standards for the entirety of Coffee Creek and Mossy Lake to establish aquatic life and recreation uses that apply year-round. The EPA also strongly recommends that ADEQ not add the label “treatment unit” to Mossy Lake in its WQS. If you would like to discuss these concerns further, please contact me at (214) 665-6646 or nelson.russell@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Russell Nelson". The signature is written in a cursive style with a large initial "R" and "N".

Russell Nelson
Regional Water Quality Standards

cc: Bob Blanz, PE., Chief Technical Officer, ADEQ