

Assessment Methodology Executive Summary

I. What is the Assessment Methodology?

Section 305(b) of the Federal Water Pollution Control Act requires states to perform a comprehensive assessment of the state’s water quality to be reported to the U.S. Environmental Protection Agency (EPA) every two (2) years. In order to do this, the Arkansas Department of Environmental Quality (ADEQ) must develop a methodology for making these assessments. The methodology enables a state to determine whether waterbodies are: (a) supporting designated uses and (b) attaining water quality criteria. The methodology defines the water quality indicators and the procedures for analyzing and interpreting data in order to decide whether standards are met or water quality is impaired. This document is prepared by ADEQ staff, must be consistent with Regulation No. 2, and must be scientifically based. Assessment outcomes determine attainment and non-attainment of the criteria or uses.

II. How does the stakeholder process work?

For the first time, ADEQ initiated a public-input process for the Assessment Methodology to receive input from interested stakeholders during a three-phase review. During Phase I, ADEQ held a listening session to gather input on potential revisions and other topics of interest to consider during subsequent phases. A Stakeholder Workgroup discussed possible revisions to the 2016 Assessment Methodology during Phase II. The Stakeholder Workgroup was comprised of the following:

Buffalo River Watershed Alliance	Beaver Watershed Alliance
Arkansas Department of Health	Arkansas Public Policy Panel
Ozark Society	Arkansas Natural Resources Commission
Arkansas Environmental Federation	Arkansas Attorney General’s Office
The Nature Conservancy	Arkansas Municipal League
National Park Service	Arkansas Dept. of Parks and Tourism
U.S. EPA - Region 6	U.S. Geologic Survey
U.S. Fish and Wildlife Service	AACD
Beaver Water District	Arkansas Farm Bureau
Arkansas Canoe Club	Arkansas Agriculture Department
Natural Resource Conservation Service	Arkansas Game and Fish Commission
Ark. Water and Wastewater Managers Assoc.	

Significant new additions to the Assessment Methodology discussed throughout the stakeholder process were the inclusion of assessment methodologies for continuous data for dissolved oxygen, pH, and temperature and the inclusion of use of the binomial distribution method for analyzing temperature, turbidity, pH, dissolved oxygen, and minerals data.

Discussion during Phase II focused on the following areas:

- Appropriate sample depth for chlorophyll-a in Beaver Lake
- Data quality requirements
- Correction of metrics used in Biological Integrity determinations
- Inclusion of assessments for continuous dissolved oxygen, temperature, and pH
- Revision of a table providing the criteria and the designated uses they protect
- Clarification on the use of ADEQ assessment software WQAR
- Reporting Categories in the listing process
- Assessment of nutrient criteria; including the methodology for using screening values
- Revising methodology for *E.coli*
- Appropriate depth for measurement of parameters in lakes
- Removal of the previously used “rounding method” to a more statistically valid “binomial distribution method”
- Appropriate use of weight of evidence approach in attainment decisions

ADEQ staff considered these issues brought up by the stakeholder workgroup and revised the methodology where appropriate. Several discussion items related to standards revisions and will be considered during the Triennial Review process.

III. Public Comment (Phase III)

After review of the information presented in Phases I and II, ADEQ has updated the draft 2018 Assessment Methodology and is now requesting public comment on the final draft methodology. Public comment will be accepted for thirty (30) days. Comments will be considered in the finalization of the 2018 Assessment Methodology.

ADEQ specifically requests comments on the following:

- assessment methodology for continuous data,
- assessment methodology for bacteria (Section 6.6), and
- use of the “binomial distribution method.”

IV. Helpful Resources

Meeting minutes and subsequent literature, articles, guidance requested by the stakeholders, and a primer on substantive changes can be reviewed here:

<https://www.adeg.state.ar.us/water/planning/integrated/assessment/default.aspx>