Please see the attached comments from the Arkansas Environmental Federation on Impaired Waterbodies.

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aeeflogo
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Jim Wise  
Arkansas Department of Environmental Quality  
5301 Northshore Drive  
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Re: List of Impaired Waterbodies - 303(d) list

The following comments are submitted on behalf of the Arkansas Environmental Federation (AEF), a non-profit association with more than 200 company members based in Little Rock, Arkansas. Our organization provides training for environmental professionals and advocates for Arkansas industry regarding environmental policy.

Comment 1.  
There is a discrepancy in the number of Category 5 listed waterbodies (streams) in the information provided by ADEQ for public review. The Category 5 list which is sorted by County, (part of the public notice package) has over 325 waterbody reaches while the Category 5 list available on the ADEQ website sorted by planning segments has 140 waterbody reaches.

It appears that the County sorted list has multiple entries for some waterbody reaches and therefore artificially inflates the number Category 5 waterbodies. We recommend that ADEQ eliminate the use of the multiple entries in the final 2016 303d list.

Comment 2.  
The 2016 303d list review protocols use the EPA’s Secondary Drinking Water Criteria of 250 mg/L for chloride and sulfate and 500 mg/L for TDS to assess impairment of Agricultural and Industrial Water Supply uses. This is the same criteria used to assess impairment of Domestic Water Supply uses.

In many cases, it is not technically appropriate to use Secondary Drinking Water Criteria to assess water quality for Agricultural and Industrial uses. The quality of water needed to support those uses is very specific to a particular agriculture practice or industrial use. We strongly recommend that the ADEQ determine appropriate assessment criteria for those uses in the development of the 2018 303d list. This is needed to minimize the possibility of erroneous Category 5 listings due to using criteria unrelated to the Agricultural and Industrial uses.

Comment 3.  
To make fisheries use attainment decisions using macroinvertebrates, the ADEQ is following a multi-metric analysis that includes six metrics. Each metric is scored with a 0, 2, 4, or 6 following comparison with a reference site. This ADEQ analysis is modified from the procedures for Rapid Bioassessment of the EPA.
The EPA Rapid Bioassessment Biological Condition Scoring Criteria from which the ADEQ scoring criteria are based appear to result in considerably different endpoints with respect to the Biological Condition Category. The EPA uses different narrative titles for the Biological Condition Categories (i.e., Nonimpaired, Slightly Impaired, Moderately Impaired, and Severely Impaired) compared to the scoring criteria used in Arkansas. The following table presents the EPA categories from its publication entitled Rapid Bioassessment Protocols for Use in Streams and Rivers (EPA/440/4/89/001).

![BIOASSESSMENT](image)

Our understanding of the historical use of the EPA scoring system was that the categories of Slightly Impaired and Nonimpaired translate to fully supporting of the aquatic life (fisheries) use. If a test site and a reference site were 54% similar (or greater) in score then the test site was determined to be Slightly Impaired and Fully Supporting.

The Arkansas assessment method for macroinvertebrates (below) contains attainment status categories based on percent similarity to determine community structure. There are four types of Attainment Status; Comparable to Reference, Supporting, Partially Supporting, and Non-Supporting.

<table>
<thead>
<tr>
<th>Attainment Status</th>
<th>% Comparable Estimate</th>
<th>Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparable to reference</td>
<td>≥90%</td>
<td>Expected to support the community structure present at the reference site</td>
</tr>
<tr>
<td>Supporting</td>
<td>75-88%</td>
<td>Should support a diverse community similar to the reference site</td>
</tr>
<tr>
<td>Partially Supporting</td>
<td>60-73%</td>
<td>Difference in the biological community may be due to the poor habitat. Comparisons may be difficult</td>
</tr>
<tr>
<td>Non-supporting</td>
<td>&lt;58%</td>
<td>Should not be expected to support the community present at the reference site</td>
</tr>
</tbody>
</table>
However, the difference appears that in order to be considered supporting, the percent similarity between the test site and the reference site has to be a minimum of 75%. Another important difference is that the ADEQ process shows that <58% similar is Non-Supporting whereas EPA would find a similarity score of 57% as only slightly impaired and therefore supporting.

We request that ADEQ provide the background and the technical documentation utilized in the development of this benthic scoring system. We also request a response as to why Arkansas elected to be more restrictive in their benthic analysis than EPA.

The AEF sincerely appreciates the Department’s thoughtful consideration of the above comments and suggestions.

Respectfully Submitted,

Charles M. Miller
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Executive Director