P.O. Box 400 Lowell AR 72745 **Ph** 479.756.3651 **Fx** 479.751.4356

Beaver**Water**District

September 10, 2018
Via E-mail: WaterbodyComments@adeq.state.ar.us

Water Quality Planning Branch
Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118

Re: ADEQ's Proposed 2018 303(d) List of Impaired Waterbodies

Dear Sir or Madam:

The following comments are respectfully submitted on behalf of Beaver Water District (BWD) regarding the Arkansas Department of Environmental Quality (ADEQ) Proposed 2018 List of Impaired Waterbodies prepared pursuant to section 303(d) of the Clean Water Act (CWA) (hereinafter the "Proposed 2018 303(d) List"). For over a decade, BWD has submitted public comments during ADEQ's biennial 303(d) process. These comments have largely fallen into two categories: (1) comments on ADEQ's listings and de-listings for Beaver Lake, the drinking water source for one in seven Arkansans, and for the Beaver Lake watershed; and (2) comments on ADEQ's 303(d) public participation process. This year is no different. BWD will begin with its comments on the process before moving to specifics related to Beaver Lake and its watershed.

ADEQ is to be applauded for the strides it has made in recent years towards providing information and opportunities for the public to participate in the 303(d) process. As with most on-going endeavors, however, there is room for improvement. Facilitating meaningful public participation is not an easy task. It is one that ultimately will be worth the effort if it produces better information about the state of Arkansas's waters and leads to restoration of those waters that are threatened or impaired. To that end, BWD makes the following suggestions and recommendations, some of which ADEQ may recognize from comments submitted by BWD in prior years.

Comment 1 re Accessibility of Underlying Data: BWD appreciates the effort that ADEQ has made to answer our questions about the analytical data utilized by ADEQ in its 303(d) decision-making for Beaver Lake and its watershed. It would be much more efficient for both parties, however, if all the data were directly available via the ADEQ website. ADEQ utilizes data from multiple outside sources for 303(d)-purposes, and it has in the past directed the public to access the data by going to those sources (*e.g.*, the website of the United States Geological Survey (USGS)). Often those websites and databases are difficult to navigate. For some sources, the data is not available on the internet.

For each Assessment Unit (AU), BWD requests that all data utilized by ADEQ and all data excluded from consideration by ADEQ for the then-current 303(d) list be made readily available through ADEQ's website. Ideally, the data for each AU would be provided in a format that

includes enough information to allow the public to ascertain how ADEQ's Assessment Methodology was applied and how determinations were made.

Comment 2 re Compilation of Data: Prior to the March 1, 2016, public hearing on the Proposed 2016 303(d) List, ADEQ staff indicated that ADEQ compiled the data for each parameter at each monitoring station into some sort of format or spreadsheet to decide whether the standards were met and whether the stream segment or lake area was impaired. It would be very helpful if this type of work-product were made available to the public at the outset of the public review period. If, however, ADEQ does not utilize a standardized worksheet to document its parameter-by-parameter decision-making for each AU, then *BWD requests that such a template be developed and that the completed worksheets be posted on ADEQ's website.*

Comment 3 re Integrated Repot: *BWD requests that ADEQ's draft "Integrated Report" prepared pursuant to CWA sections 305(b) and 303(d), and not just the proposed 303(d) list, be released for public review and comment.* BWD has made this request in public comments on ADEQ's proposed 303(d) lists going back to at least 2008. This is the approach taken by the Oklahoma Department of Environmental Quality (ODEQ), and it allows the public to be much better informed when making comments on the 303(d) list. *See, e.g.,* ODEQ's January 28, 2018, Public Notice regarding its Draft 2016 Integrated Report (copy attached hereto).

ADEQ has previously stated that, "the Draft 305(b) Report cannot be completed until after the public comment period on the List of Impaired Waterbodies, therefore, the report cannot be made available until after the list has been reviewed." *See* page 1 of ADEQ's "Responsiveness Summary to Comments Concerning Arkansas 2008 303(d) Listing." ADEQ's response in 2016 on this issue was simply that ". . . there are no requirements for the 303(b) Report to be public noticed." *See* page 2 of ADEQ's "Responsiveness Summary to Comments Concerning Arkansas's Draft 2016 303(d) List." BWD still does not understand why a *draft* 305(b) report/Integrated Report could not be released at the same time as the *proposed* 303(d) list. Other states do it, and the United States Environmental Protection Agency (EPA) suggests it. *See, e.g.,* page 25 of EPA's July 29, 2005 "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act."

Comment 4 re Listing and De-Listing Justifications: In the event that ADEQ in the future again choses to not release the draft Integrated Report along with the proposed 303(d) list for public review and comment, *BWD requests that ADEQ at least provide, at the time the 303(d) list is publicly noticed, a brief narrative justification for any proposed new listing or delisting of an Assessment Unit and for the addition or removal of any individual water quality parameter.* For the Proposed 2018 303(d) List, ADEQ provided a table of de-listed AUs. An explanation for the de-listing was not, however, provided. An example of how this could easily be done is shown in ODEQ's 2016 Integrated Report, Appendix D – 2016 Oklahoma 303(d) Delisting Justifications (copy attached hereto). A similar table could be created with justifications for new listings.

Comment 5 re Exclusion of USGS Data: The Period of Record for the Proposed 2018 303(d) List is: (1) April 1, 2014, through March 31, 2017, for metals and ammonia toxicity analyses; (2)

January 1, 2012, through December 31, 2016, for the Beaver Lake site-specific nutrient criteria; and (2) April 1, 2012, through March 31,2017, for all other analyses. Through discussions with ADEQ, BWD learned that ADEQ only utilized USGS data for Beaver Lake and its watershed from January 1, 2012, through December 31, 2013. Apparently, that was because the USGS data after 2013 was denoted as "provisional." It is BWD's understanding that the "provisional" notation has been removed by USGS. *BWD requests that ADEQ incorporate the USGS data for Beaver Lake and its watershed from the* ***entire*** *period of record and that ADEQ* ***revise its assessments, listings, and de-listings accordingly.***

Comment 6 re Exclusion of USGS Turbidity Data: BWD also learned that ADEQ excluded USGS turbidity data for Beaver Lake and its watershed because the measurements were made in Nephelometric Turbidity Ratio Units (NTRUs) instead of Nephelometric Turbidity Units (NTU). The NTRU test method is EPA-approved, and it is our understanding but that the results utilizing NTRUs and NTUs may be interchangeable. *BWD requests that ADEQ consult with USGS on the appropriateness of utilizing the NTRU turbidity data and that ADEQ consider incorporating the USGS turbidity data for Beaver Lake and its watershed into its assessment of those waters for the 2018 303(d) List.* If ADEQ decides against utilizing the USGS turbidity data for Beaver Lake and its watershed for the 2018 303(d) List, *BWD requests that the NTRU versus NTU issue be addressed in the next triennial review of Arkansas Pollution Control and Ecology Commission Regulation No. 2.503.*

Comment 7 re De-Listing of Holman Creek: The table of stream segments removed from the list of impaired waterbodies includes Holman Creek for total dissolved solids (TDS) non-attainment at Reach -059, Monitoring Station WHI0070, for 9.1 miles. On the other hand, Holman Creek at Reach -059, Monitoring Station WHI0070, for 10.6 miles is included in the "Draft 218 Category 5" table. The "Water Quality Standard Non-Attainment" is not identified for this Category 5 listing. *BWD requests that ADEQ clarify any listing or de-listing for Holman Creek and that ADEQ provide the justification for any such listing or de-listing.*

Comment 8 re Pathogen Impairment Listings: The Proposed 2018 303(d) List includes three AUs in Beaver Lake as a Category 5 lake impaired for non-attainment of the "PA" or pathogen WQS. Reg. 2.507 is the "Bacteria" WQS, and it includes numeric criteria for fecal coliform and *Escherichia coli (E. Coli)* bacteria. The term "pathogen" is not defined or otherwise contained in Reg. 2. The Assessment Methodology for the 2018 303(d) List provides at section 6.6 that, "Bacterial assessments are made with discrete *Escherichia coli (E. Coli*). In the absence of *E. Coli* data, discrete fecal coliform data may be utilized."

It would be helpful and more appropriate to specify whether it is the E. Coli WQS, fecal coliform WQS, or both that are not being attained. The Proposed 2018 303(d) List includes columns for specific metals (copper, lead, and zinc) and minerals (chloride, sulfate, and TDS). The same should be done for E. Coli and fecal coliform bacteria.

Comment 9 re Missing Information: In the Proposed 2018 303(d) List of Category 5 Waters, the "Designated Use Not Supported" is not provided for Reach -624 of the West Fork of the White River, Reach -824 of Town Branch (a tributary of the West Fork of the White River),

Reach -023 of the White River, Reach -926 of the Middle Fork of the White River, and Reach -959 of Town Branch (a tributary of Holman Creek). *BWD requests that this information be included or that an explanation be provided as to why the information cannot be specified.* The same comment also applies to the multiple instances where the "Source of Contamination" for non-attainment of the Beaver Lake watershed streams is listed as "Unknown."

Comment 10 re Prioritization: The seven stream segments in the Beaver Lake watershed that are on the Proposed 2018 303(d) List are listed as either "Low" or "Medium" Priority. *BWD supports the recommendations of the Arkansas Department of Health* in its September 7, 2018, public comment on the Proposed 2018 303(d) List (copy attached hereto) as to the prioritization and attention that should be accorded to drinking water supply sources and their watersheds.

Comment 11 re Category 4b: ADEQ has placed three Beaver Lake AUs into Category 4b instead of into the Category 5 list of impaired waterbodies. Under 40 C.F.R. § 130.7(b)(1)(iii), this is appropriate if "[o]ther pollution control *requirements* (e.g., best management practices) *required* by local, State, or Federal authority" are stringent enough to implement applicable water quality measures [emphasis added]. *BWD reserves judgment as to whether the existence of the 2012 Beaver Lake Watershed Protection Strategy is sufficient on its own to satisfy this regulatory requirement.* Neither BWD nor the Beaver Watershed Alliance has regulatory authority, and the Beaver Lake Watershed Protection Strategy is based on voluntary efforts. BWD looks forward to discussing with ADEQ the assistance that it will provide to implement the Beaver Lake Watershed Protection Strategy.

Please contact me if you have any questions about these comments. Thank you for your consideration.

Sincerely,

Colene Gaston

Colene Gaston
Staff Attorney

Attachments:
January 22, 2018, ODEQ Public Notice of Draft 2016 Integrated Report
April 27, 2018, ODEQ Final 2016 Integrated Report, Appendix D, Delisting Justifications
September 7, 2018, ADH Public Comment on the Proposed 2018 303(d) List

Copies via email:
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OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

PUBLIC NOTICE

January 22, 2018

The Oklahoma Department of Environmental Quality Announces that the Draft 2016 Integrated Report, "Water Quality in Oklahoma", is Available for Review

The 30-day Public Comment Period Begins on January 22, 2018

A Public Meeting to Discuss the Report has been Scheduled at 3:00 PM on Tuesday, February 20, 2018

The Public Comment Period Ends at 4:30 PM on Friday, February 23, 2018

PURPOSE

The Oklahoma Department of Environmental Quality (DEQ) has prepared the draft 2016 Integrated Report, "*Water Quality in Oklahoma*". This Notice is to inform the public about:

- The Integrated Report,
- The Public Meeting,
- How to provide feedback regarding the draft Integrated Report, and
- How to get additional information.

WHAT IS THE "INTEGRATED REPORT"?

The Integrated Report combines into one document the reporting requirements under the Federal Clean Water Act (CWA) Section 305(b) - *Surface Water Quality Assessment* - and the reporting requirements under CWA Section 303(d) - *List of Impaired Waters*.

The *Water Quality Assessment Report* is a biennial (once every two years) assessment of both impaired and non-impaired waterbodies. The methods used to develop the Integrated Report are described in the Continuing Planning Process (CPP). One goal of the CPP is to provide an objective and scientifically sound waterbody assessment listing methodology. The CWA requires states to develop Water Quality Standards (WQS) and have designated beneficial uses assigned to all waterbodies. These uses of water are for things such as drinking, fishing, swimming, recreation, aesthetics, and agriculture. The designated beneficial uses for all Oklahoma waterbodies are listed in Appendix A of Oklahoma's Water Quality Standards.

The CPP includes guidelines of how waterbodies are placed in one of five categories depending how well their designated uses are attained. The proposed placement of Oklahoma waterbodies into these categories based on their assessment can be found in Appendix B (*Comprehensive Waterbody Assessment*) of Oklahoma's draft 2016 Integrated Report.

Based on the WQS, DEQ develops plans with goals and pollution control targets for improving water quality where minimum standards are not met. The waterbodies where these minimum standards are not met are considered to be "impaired." Impaired waterbodies are listed on what is known as the 303(d) List, which refers to section 303(d) of the CWA. Oklahoma's 303(d) *List of Impaired Waters* is found in Appendix C of the draft 2016 Integrated Report. The plan to improve water quality for impaired waterbodies is accomplished by establishing limits known as Total Maximum Daily Loads (TMDLs) for each pollutant exceeding the standards. TMDLs set levels for pollutants that allow waterbodies to achieve their WQS for beneficial uses. Oklahoma TMDL reports can be found at: http://www.deq.state.ok.us/wqdnew/tmdl/index.html.

PUBLIC MEETING

DEQ will hold an informal Public Meeting regarding the draft 2016 Integrated Report, *Water Quality in Oklahoma*. The meeting will consist of a short presentation, an informal question and answer session (staff from DEQ and other involved State agencies will be on hand to address any questions), and an opportunity to make and/or submit official public comments for the record. The Public Meeting will be held:

3:00 p.m., Tuesday, February 20, 2018
Department of Environmental Quality
1st Floor Multipurpose Room
707 North Robinson (6th and Robinson)
Oklahoma City, OK

(Map to DEQ can be found here: http://www.deq.state.ok.us/mainlinks/map2deq.pdf)

HOW TO PROVIDE INPUT

DEQ invites your comments. This is a draft document and is subject to change based on comments received during the public participation process. All official comments for the record must be submitted either in writing or by e-mail before the end of the comment period or orally at the Public Meeting. For clarity, written comments are preferred. DEQ will prepare a responsiveness summary addressing all comments received. Then the 2016 Integrated Report will be modified, if needed, and submitted to EPA for final approval.

The comment period will be open for 30 days. **In order for comments to be considered, they must be received before 4:30 PM on February 23, 2018.** If you have any comments regarding the draft 2016 Integrated Report, please submit your comments in writing to:

Nicole Newcomer
Water Quality Division
Oklahoma Department of Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677
E-mail: Water.Comments@deq.ok.gov

HOW TO OBTAIN MORE INFORMATION

- Information about Oklahoma's Integrated Water Quality Assessment and the draft 2016 Integrated Report can be found at the following DEQ web site: www.deq.state.ok.us/wqdnew/305b_303d/index.html.

- A printed copy may be checked out on loan from the DEQ office in Oklahoma City for copying at your own expense. Printed copies may be purchased from the DEQ OKC office, with advanced notice, at a cost of $70.00. There is no charge for an electronic copy of the report as long as you send in a blank writable Compact Disk and a PREPAID return postage mailer along with your request.

- For further information, contact Nicole Newcomer at (405) 702-8290 or Nicole.Newcomer@deq.ok.gov.

You are receiving this notice because you are either on DEQ's list to receive all public notices, or you requested notices about the Integrated Report. In addition to the Integrated Report, DEQ's Watershed Planning & Stormwater Permitting Section sends out public notices about proposed wasteload allocations (208s), proposed TMDLs, 404 projects, 401 Certification requests, stormwater permits, and proposed changes in the CPP.

If you would like to receive any or all of these public notices via e-mail, please send your e-mail address to Water.Comments@deq.ok.gov. Also, please let us know if you want to receive notices for the entire State or just for your watershed.

OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY

By receiving PDF public notices via e-mail, you will help save money and the environment by reducing the amount of paper we use to mail them. In addition to helping the environment, you will be able to click on helpful FYI hyperlinks.

This notice is for informational purposes only. Do not publish in the legal section of newspapers.

Appendix D - 2016 Oklahoma 303(d) Delisting Justifications

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK120400010070_00	Webbers Falls Lake	Enterococcus	WQS attained; Enterococcus geometric mean of 20.84 cfu/mL is below criterion	
OK120410010100_00	Cloud Creek	Sulfates	None of 20 samples exceeds 250 mg/L criteria for sulfates	
OK120420020130_00	Sahoma Lake	Oxygen, Dissolved	DO assessment is undetermined; between 55-69% of water column has DO less than 2 mg/L	
OK121300030230_00	Pawhuska Lake	Sulfates	WQS attained; no sulfate sample exceeds 250 mg/L	
OK121300040350_00	Hominy Lake	Oxygen, Dissolved	DO assessment is undetermined; 50-62% of water column is below 2 mg/L	
OK121400010010_10	Caney River	Turbidity	WQS attained. Only 2 of 22 (9.1%) excceded criterion.	
OK121500030010_00	Verdigris River	Turbidity	IR 2016: out of 13 samples 0 exceed for turbidity	
OK121510020010_00	Verdigris River	Turbidity	WQS attained. 0 of 13 samples exceeded criterion.	
OK121600010280_00	Neosho River	Lead	WQS attained, 0 of 14 samples exceed criteria for lead	
OK121600010290_00	Spring Creek	Enterococcus	WQS attained; geometric mean of 22 (11 samples) is below criterion for Enterococcus	
OK121600020050_00	WR Holway Reservoir (Chimney Rock Lake)	Oxygen, Dissolved	WQS attained. No instances of greater than 50% of the volume of the lake were below 2 mg/L using Quarterly sampling and real-time monitoring platform data.	
OK121700030080_00	Illinois River	Lead	WQS attained; 0 of 7 samples exceed	
OK121700030080_00	Illinois River	Escherichia coli	WQS attained, geometric mean of 91.2 is below criterion	
OK121700030280_00	Illinois River	Escherichia coli	WQS attained, geometric mean of 52.3 is below criterion	
OK121700030350_00	Illinois River	Enterococcus	WQS attained, geometric mean of 16.6 is below criterion	
OK121700030350_00	Illinois River	Escherichia coli	WQS attained, geometric mean of 12.8 is below criterion	
OK121700050010_00	Illinois River, Baron Fork	Enterococcus	WQS attained; geometric mean of 30.8 is below criterion for Enterococcus	
OK121700050010_00	Illinois River, Baron Fork	Escherichia coli	WQS attained; geometric mean of 32.1 is below criterion for E. coli	
OK121700060010_00	Flint Creek	Escherichia coli	WQS attaining; geometric mean of 101.5 is below the E. coli criterion	
OK121700060080_00	Sager Creek	Oxygen, Dissolved	WQS attained; 4 of 41 (9.8%) samples exceed criteria for DO	
OK220100010010_30	Poteau River	Cadmium	Error in the input of data due to wrong interpretation of sampling station location. Data belongs in another segment (OK220100010010_40).	
OK220100010010_30	Poteau River	Copper	Error in the input of data due to wrong interpretation of sampling station location. Data belongs in another segment (OK220100010010_40).	
OK220100010010_30	Poteau River	Silver	Error in the input of data due to wrong interpretation of sampling station location. Data belongs in another segment (OK220100010010_40).	

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK220100010010_30	Poteau River	Lead	Error in the input of data due to wrong interpretation of sampling station location. Data belongs in another segment (OK220100010010_40).	
OK220100010010_30	Poteau River	Selenium	Error in the input of data due to wrong interpretation of sampling station location. Data belongs in another segment (OK220100010010_40).	
OK220100010180_00	Caston Creek	Fishes Bioassessments	WQS attained for fish; USAP score of 39.	
OK220200010010_00	Arkansas River	Total Dissolved Solids	0 of 15 samples exceed criterion	
OK220200010010_00	Arkansas River	Enterococcus	16 samples with a geometric mean of 26.7	
OK220200020040_00	Little Sallisaw Creek	Copper	2007-2008 hardness was in incorrect units (micrograms vs milligrams)	
OK220200050010_10	Lee Creek	Lead	0 of 31 samples exceed criteria	
OK220600010070_10	Longtown Creek	Escherichia coli	WQS attained; geometric mean of 54.03 is below criterion for E. coli	
OK220600030010_10	Brushy Creek	Escherichia coli	WQS attained; geometric mean of 40.36 is below criterion for E. coli	
OK220600030050_00	Peaceable Creek	Sulfates	Sulfates were monitored 20 times and no sulfate value exceeded 250	
OK220600030050_00	Peaceable Creek	Escherichia coli	WQS attained; geometric mean of 52.77 is below criterion for E. coli	
OK220600040010_00	Gaines Creek	Oil and Grease	No oil and grease found; two different locations in this segment were monitored with a total of 27 samples	
OK220600050010_00	Eufaula Lake, Gaines Creek Arm	Oxygen, Dissolved	Change in WQS; DO range of 50-55% below 2 mg/L is considered "undetermined"	
OK310800020010_00	Washita River	Turbidity	WQS attained. Only 1 of 13 (7.7%) samples exceeded criteria	
OK310800020190_00	Chigley Sandy Creek	Escherichia coli	WQS attained; geometric mean of 98.11 is below criterion for E. coli	
OK310810010090_10	Rush Creek	Turbidity	10 samples, none exceed. highest value = 48.3	
OK310810040150_00	Humphreys Lake	Chlorophyll-a	TMDL approved (EPA TMDL No. 66037) 7/22/2016	66037
OK310830010010_00	Washita River	Turbidity	Only 2 of 28 (7.1%) samples exceed criteria	
OK310830010030_00	Delaware Creek	Fishes Bioassessments	Fish collection (8/4/2014) - attaining USAP	
OK310830020020_00	Stinking Creek	Escherichia coli	WQS attained; geometric mean of 70.75 is below criterion for E. coli	
OK310830030010_00	Washita River	Turbidity	WQS attained; only 3of 32 samples exceed criterion (9.4%)	
OK310830030070_00	Cavalry Creek	Escherichia coli	WQS attained; geometric mean of 89.39 is below criterion for E. coli	
OK310830030100_00	Boggy Creek	Fishes Bioassessments	WQS attained; fish bioassessment indicates attainment	
OK310830030100_00	Boggy Creek	Escherichia coli	WQS attained; geometric mean of 84.70 is below criterion for E. coli	
OK310830030190_00	Beaver Creek	Fishes Bioassessments	Fish collection (5/13/2014) - attaining USAP	
OK310830030210_00	Barnitz Creek, East	Escherichia coli	WQS attained, E. coli geometric mean is 108.42	

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK310830030210_00	Barnitz Creek, East	Fishes Bioassessments	WQS attained; Fish bioassessment is now supporting.	
OK310830040030_00	Stinking Creek	Fishes Bioassessments	WQS attained; Fish bioassessment is now supporting	
OK310830050010_00	Sugar Creek	Fishes Bioassessments	Fish collection (6/30/2014) - attaining USAP	
OK310840010010_00	Washita River	Turbidity	0 of 20 samples exceeded criteria	
OK311100010190_00	Red River	Sulfates	Error in original listing; data is for a different segment	
OK311100010190_00	Red River	Turbidity	Error in original listing; data was for a different segment	
OK311100010190_00	Red River	Enterococcus	Error in original listing; data was for a different segment	
OK311310010010_00	Red River	Fishes Bioassessments	OKRM-1010 & OKRM-1026 from 2014	
OK311310020010_00	Cache Creek, West	Chloride	WQS attained; mean of 173.4 mg/L is below YMS of 187 mg/L, and 2 of 20 chloride samples exceeded the segment SS of 285 mg/L (10%)	
OK311310030040_00	Little Deep Red Creek	Escherichia coli	Sampled in 2010 and 2014; Geometric mean = 77.08	
OK311500010020_10	Red River, North Fork	Sulfates	WQS attained; only 1 of 30 samples exceed (3.3 %) the SS of 1040 mg/L and mean of 722.4 mg/L does not exceed YMS of 781 mg/L	
OK311500010080_00	Otter Creek	Escherichia coli	WQS attained; geometric mean of 47.21 is below E. coli criterion	
OK311500030010_00	Elk Creek	Escherichia coli	WQS attained; geometric mean of 32.1 is below criterion for E. coli	
OK311500030010_00	Elk Creek	Chloride	0 of 30 samples exceed criterion	
OK311500030120_00	Elk City Lake	Turbidity	WQS attained, only 4% of turbidity values exceed criterion	
OK311510010040_00	Lake Creek	Escherichia coli	WQS attained, geometric mean of 47.42 is below E. coli criterion	
OK311600020060_00	Turkey Creek	Escherichia coli	WQS attained. E. coli geometric mean is 55.06.	
OK311600020060_00	Turkey Creek	Fishes Bioassessments	WQS attained; Latest fish bioassessment does not indicate impairment.	
OK410100010010_10	Red River	Turbidity	WQS attained. Only 2 of 24 (8.3%) samples exceeded criteria	
OK410210060010_10	Little River, Mountain Fork	Copper	WQS attained; 0 of 31 copper samples exceed criterion of 2.649 ug/L	
OK410210080010_00	Glover River	Enterococcus	WQS attained. 11 samples with a GM of 26.00	
OK410300020190_00	Rock Creek	Turbidity	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410300020190_00	Rock Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410300030020_10	Cedar Creek	Turbidity	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410300030020_10	Cedar Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410300030060_00	One Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK410300030420_00	Buck Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410310020010_10	Kiamichi River	Copper	WQS attained, 0 of 16 copper samples exceed the criterion of 2.071 ug/L	
OK410310020070_00	Billy Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410310020100_00	Big Cedar Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400010070_00	Muddy Boggy Creek	Lead	WQS attained, long-term arithmetic mean of 1.8 ug/L is below criterion	
OK410400010130_00	Lick Creek	Escherichia coli	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400010130_00	Lick Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400010210_00	Whitegrass Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400010210_00	Whitegrass Creek	Escherichia coli	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400020200_00	Caney Creek	Enterococcus	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400020200_00	Caney Creek	Escherichia coli	TMDL approved (EPA TMDL No. 66323) 9/1/16	66323
OK410400030010_00	Clear Boggy Creek	Benthic-Macroinvertebrate Bioassessments	WQS attained, recent macroinvertebrates bioassessments indicate attainment	
OK410400030010_00	Clear Boggy Creek	Turbidity	Only 1 of 28 (3.6%) sample exceeded criteria	
OK520500020010_00	Wewoka Creek	Escherichia coli	12 samples in 2013-2014 with a GM of 33.69	
OK520500020010_00	Wewoka Creek	Chloride	Chloride mean of 206 mg/L is below the segment YMS of 334 mg/L, and no samples exceed the SS of 430 mg/L	
OK520500020090_00	Little Wewoka Creek	Escherichia coli	WQS attained; geometric mean of 55.28 is below criterion	
OK520510000010_00	Canadian River, North	Lead	17 samples attain	
OK520510000100_00	Turkey Creek	pH	pH was attaining with 20 samples	
OK520510000110_00	Canadian River, North	Lead	Error in original listing; data was for another stream segment.	
OK520510000110_00	Canadian River, North	Turbidity	Error in original listing; data was for another stream segment.	
OK520510000110_00	Canadian River, North	pH	Error in original listing; data was for another stream segment.	
OK520510000110_00	Canadian River, North	Enterococcus	Error in original listing; data was for another stream segment.	
OK520510000110_20	Canadian River, North	Escherichia coli	WQS attained; geometric mean of 38 is below criterion for E. coli	
OK520520000010_10	Canadian River, North	Escherichia coli	WQS attained; geometric mean of 69 is below criterion for E. coli	
OK520520000010_20	Canadian River, North	Escherichia coli	WQS attained; geometric mean of 44 is below criterion for E. coli	
OK520520000010_40	Canadian River, North	Escherichia coli	WQS attained; geometric mean of 79 is below criterion for E. coli	

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK520520000210_00	Canadian River, North	Escherichia coli	WQS attained; geometric mean of 72 is below criterion for E. coli	
OK520530000010_10	Canadian River, North	Escherichia coli	11 samples with a GM of 42.7	
OK520600030010_00	Canadian Sandy Creek	Escherichia coli	WQS attained; geometric mean of 30.73 is below criterion	
OK520610010080_00	Willow Creek	Chlorpyrifos	WQS attained; 0 samples exceed acute and chronic criterion for Fish & Wildlife Propagation	
OK520610010180_00	Bishop Creek	Fishes Bioassessments	WQS attained for Fish Bioassessment; latest fish bioassessment does not indicate impairment	
OK520610010180_00	Bishop Creek	Chlorpyrifos	WQS attained; 0 samples exceed acute and chronic criterion for Fish & Wildlife Propagation	
OK520610020150_10	Canadian River	Turbidity	WQS attained; only 1 of 25 samples exceed criterion (4%)	
OK520700020010_10	Canadian River, Deep Fork	Lead	WQS attained; mean of lead samples is 3.64	
OK520700040020_00	Dry Creek	Escherichia coli	WQS attained; geometric mean of 125.09 is below criterion	
OK520700040260_00	Quapaw Creek	Escherichia coli	10 samples in 2013 and 2014. Geometric mean = 26.46	
OK520700050140_00	Captain Creek	Escherichia coli	11 samples in 2013-14; Geometric mean = 72.96	
OK520710010030_00	Coon Creek	Chlorpyrifos	WQS attained; 0 samples exceed acute and chronic criterion for Fish & Wildlife Propagation	
OK520710020030_00	Spring Creek	Fishes Bioassessments	WQS attained; fishes bioassessment indicates attainment	
OK520710020060_00	Canadian River, Deep Fork	Enterococcus	WQS attained, listed in error, only 2 samples collected within a recreation period	
OK520710020060_00	Canadian River, Deep Fork	Escherichia coli	WQS attained, listed in error, only 2 samples collected within a recreation period	
OK520800010050_00	Bird Creek	Total Dissolved Solids	WQS attained; none of 12 samples with mean 633.3 exceeds SS of 1576, mean of 633.3 is below YMS of 1192	
OK520800010050_00	Bird Creek	Ammonia (Un-ionized)	Out of 11 samples not one exceeded ammonia for temperature and pH	
OK520800020080_00	Pecan Creek	Oil and Grease	27 samples in 2013-2015 with no observations of oil and grease	
OK520800030010_00	Salt Creek	Escherichia coli	10 samples in 2013-2014; Geometric mean = 53.28	
OK520800030010_00	Salt Creek	Fishes Bioassessments	Not impaired; recent fish assessment does not indicate impairment	
OK520810000030_00	Hog Creek	Escherichia coli	10 samples in 2013-2014; Geometeric mean = 74.79	
OK520810000030_00	Hog Creek	Oxygen, Dissolved	WQS attained; Only 1 of 21 samples (5%) did not meet the criteria to be considered attained	
OK520810000030_00	Hog Creek	Turbidity	WQS attained. Only 1 of 20 samples exceeded criterion.	
OK620900010290_00	Euchee Creek	Ammonia (Un-ionized)	WQS attained. 7 of 7 samples do not exceed criterion.	

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK620900020050_00	Council Creek	Escherichia coli	WQS attained. Geometric mean of 105.11 is below the E. coli criterion.	
OK620900030010_00	Cimarron River	Turbidity	0 of 33 samples exceeded criteria	
OK620900030230_00	Beaver Creek	Escherichia coli	WQS attained; geometric mean of 20.02 is below the E. coli criterion	
OK620900040280_00	Carl Blackwell Lake	Chlorophyll-a	TMDL completed (EPA TMDL ID No. 66037) 7/22/16	66037
OK620910020010_10	Cimarron River	Enterococcus	TMDL approved (EPA TMDL No. 40622) 8/26/2011	40622
OK620910020040_00	Cooper Creek	Escherichia coli	WQS attained; geometric mean of 49.62 is below the E. coli criterion	
OK620910020250_00	Deep Creek	Escherichia coli	10 samples in 2013 with a GM of 113.55	
OK620910020310_00	Indian Creek	Escherichia coli	10 samples in 2013 with GM of 53.65	
OK620910030010_00	Skeleton Creek	Escherichia coli	15 samples collected with a GM of 123.9	
OK620910030040_00	Otter Creek	Escherichia coli	WQS attained; geometric mean of 52.71 is below the E. coli criterion	
OK620910040120_00	Deer Creek	Chlorpyrifos	WQS attained; 0 samples exceed acute and chronic criterion for Fish & Wildlife Propagation	
OK620910050010_00	Kingfisher Creek	Sulfates	WQS attained; only 2 of 20 samples exceeded SS and mean of 612.6 mg/L does not exceed YMS of 680 mg/L	
OK620910050010_00	Kingfisher Creek	Turbidity	WQS attained; only 1 of 15 (6.6%) samples exceeded criteria in 2012-2014	
OK620910050080_00	Winter Camp Creek	Sulfates	WQS attained; Sulfates - 599.19 (YMS 680, SS 873)	
OK620910050080_00	Winter Camp Creek	Escherichia coli	WQS attained; geometric mean of 97.0 is below criterion for E. coli	
OK620920010180_00	Main Creek	Escherichia coli	WQS attained; geometric mean of 77.66 is below the E. coli criterion.	
OK620920020080_00	Long Creek	Escherichia coli	WQS attained; geometric mean of 94.51 is below the E. coli criterion	
OK620920040010_00	Eagle Chief Creek	Escherichia coli	WQS attained; geometric mean of 43 is below the E. coli criterion	
OK620920050010_00	Buffalo Creek	Escherichia coli	WQS attained. 11 samples in 2012-2014 with a GM of 16.77	
OK620930000010_00	Cimarron River	Escherichia coli	14 samples collected with a GM of 116.8	
OK621000010010_30	Arkansas River, Salt Fork	Lead	IR2016: 16 samples attain with a mean of 2.58	
OK621000050010_00	Pond Creek	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 52.62	
OK621010010130_00	Clay Creek, West	Oxygen, Dissolved	DO assessment is undetermined; 2 of 18 (11%) below support criteria and 1 of 18 (5.5%) below non-support criteria.	
OK621010020010_00	Sandy Creek	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 16.08	
OK621010030010_00	Medicine Lodge River	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 30.71	

Waterbody ID	Waterbody Name	Listing Cause	Delisting Justification	TMDL ID (if completed)
OK621010030030_00	Driftwood Creek	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 102.83	
OK621100000010_00	Chikaskia River	Turbidity	TMDL approved (EPA TMDL No. 41088) 9/30/2011	41088
OK621100000010_10	Chikaskia River	Lead	WQS attained. The mean is 2.38 ug/L (17 samples).	
OK621200010200_00	Arkansas River	Turbidity	Onle 2 of 27 (7.4%) samples exceeded criteria	
OK621200020210_00	Lake Ponca	Oxygen, Dissolved	DO assessment is undetermined; between 55-65% of water column has DO less than 2 mg/L	
OK621200030010_00	Black Bear Creek	Escherichia coli	13 samples collected with a GM of 88.2	
OK621200030010_00	Black Bear Creek	Lead	IR2016: 15 samples with a mean of 4.53	
OK621200030060_00	Lone Chimney Lake	Turbidity	WQS attained; only 4% of values exceed 25 NTU.	
OK621200040010_10	Salt Creek	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 16.62.	
OK621200050010_00	Red Rock Creek	Escherichia coli	WQS attained. 10 samples in 2013 with a GM of 86.50.	
OK621210000050_10	Beaver Creek	Escherichia coli	10 samples in 2013 with a GM of 56.33	
OK720500010150_00	Persimmon Creek	Escherichia coli	11 samples with a GM of 69.46	
OK720500020250_00	Duck Pond Creek	Escherichia coli	TMDL approved (EPA TMDL No. 39229) 9/28/2010	39229

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September 7, 2018

Sarah Clem
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Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock AR 72218
via email: WaterbodyComments@adeq.state.ar.us

RE: ADH Public Comments on ADEQ 2018 Draft Impaired Waterbodies List 303(d)

Dear Ms. Clem,

The ADEQ Draft Impaired Waterbodies List includes 45 proposed impaired assessment units (AUs) that impact 25 public water systems (PWS) servicing 1,204,727 Arkansans (Table 1). Table 1 was compiled by comparing the recently-issued ADEQ draft 303(d) impaired waterbodies list for 2018 and GIS geodatabases to surface water intake locations and their respective watershed protection areas for PWSs in the state. Table 1 includes specific stream or lake information compiled by ADEQ, affected PWS(s) with an intake or source assessment area within the impaired AU, and the population served by that water system. An additional 588,000 Arkansans' have drinking water sourced from newly listed tributaries on the 2018 303(d) list compared to the 2016 list. Turbidity, pH, pathogens, and nitrogen are of particular concern for drinking water supplies. Pathogens and mercury are public health concerns because of swimming (primary contact) and mercury/fish consumption by people.

The Arkansas Department of Health Engineering Section has primacy in the state for implementation of the federal Safe Drinking Water Act and ADEQ implements the federal Clean Water Act. The primary mission of the ADH is the protection of public health, and the strong link between safe public drinking water and public health drives our program. We recognize ADEQ shares this goal and we request your continued partnership in this worthwhile endeavor. To that end, ADH requests that drinking water sources always be given the highest priority when determining the final 303(d) Impaired Waterbodies Listing.

Water bodies impaired by pathogens, turbidity, and/or minerals can significantly increase the cost of treatment required to meet National Primary and Secondary Drinking Water Regulations requirements. Turbidity and mineral pollution also increase the risk of exposure to regulated pathogenic contaminants. For example, high sediment in a stream increases the cost for the water utility to meet the Primary Drinking Water Standard for turbidity. Similarly, sediment loading is one indicator of microbiological contaminants in source water, including *E. coli, Giardia lamblia,* and *Cryptosporidium sp.* Removal of microbiological contaminants also increases treatment costs.

We request your assistance in placing a high priority on protecting these vulnerable drinking water sources, which serve approximately 42% of all public drinking water users, when evaluating and addressing the 2018 list of impaired waterbodies. ADH recommends the following actions that your agency and other Clean Water Act partners could take that would reflect that priority:

1. Higher priority in protecting any in-use drinking water source.
2. Increased monitoring to better identify the temporal and spatial areas of impairment, especially for the Category 4a and 4b waterbodies, which may impact public water supplies.
3. Higher priority in identifying and correcting the sources of impairment, which remain unknown for several source waters.
4. Increased compliance scrutiny on the monitoring and operational reports of wastewater, stormwater, resource extraction, and other applicable permittees.
5. Stricter effluent standards for new and renewed permits, or a ban on new permits, when warranted in source waters.
6. The timely establishment of TMDLS as well as adoption of other non-point source management strategies for all impaired source waters.
7. Increased emphasis and coordination on controlling nonpoint pollution sources, including better utilization of EPA's extensive Source Water Collaborative resources and tool kit.
8. Preferential funding of assessment, restoration, and mitigation projects for nonpoint pollution sources in source waters.
9. Application of turbidity, pH, pathogens, and nitrogen criteria to make drinking water designated use attainment decisions.

The protection of drinking water sources from minerals, turbidity, and pathogens and the protection of individuals from primary and secondary contact recreation and fish consumption illness will require the active engagement of the public from all levels of government. The Department of Health will continue to pursue these goals through its public water system oversight program. Other federal, state, and local agencies must also contribute. Your collaborative efforts are appreciated.

Should you wish to discuss these matters further, you may contact me or Darcia Routh, Geology Supervisor, at 501-661-2623 or at Darcia.routh@arkansas.gov.

Sincerely,

Richard L. McMullen, Ph.D.
Associate Director for Science, Center for Local Public Health
State Environmental Health Director
Arkansas Department of Health

JS:TL:DR:BG:tc

cc: Bruce Holand., Executive Director, AR Natural Resources Commission
Jeff Stone, P.E., Director, Engineering Section, ADH
Terry Paul, Branch Chief, Environmental Health, ADH

Enclosure: 2018 303(d) list impaired assessment units with public water system intake watersheds

2018 Draft Impaired Waterbodies 303(d) within Source Water Assessment Areas for Public Water Systems

Basin	Stream Name	HUC	Rch/Pseg	WQ Standard(s)	Source	Public Water System	Total Population Served
Arkansas River Basin	East Fork Cadron Creek	11110205	002/3D	Turbidity	Surface Erosion	Conway Water System	58908
	Fourche LaFave River	11110206	001/3E	DO	Unknown	Perryville Waterworks	4937
	South Fourche LaFave River	11110206	014/3E	DO	Unknown		
	Whig Creek	11110203	931/3F	Aquatic Life,DO, Ammonia	Unknown	Dardanelle Waterworks	5896
	***Nimrod Lake**	11110206	3E	DO	-	Tri-County Water Distbr Dist	16698
	East Fork Illinois Bayou	11110202	013/3H	DO	Unknown		
	Illinois River	11110103	023/3J	Pathogens	Surface Erosion	Siloam Springs Waterworks	18457
	Illinois River	11110103	020/3J	Cl-, SO_4	Unknown		
	Lee Creek Reservoir	11110104	3H	pH	-	Fort Smith Water Utilities	158206
	Blue Mountain Lake	11110204	3G	Aquatic Life, DO, Turbidity	Surface Erosion	Danville Waterworks	15718
White River Basin	South Fork Little Red River	11010014	036/4E	pH	Unknown	Clinton Waterworks	12838
	Greenbrier Creek	11010004	017/4F	Aquatic Life, DO	Unknown	Batesville Water Utilities	15950
	Fourche River	11010009	008/4G	Aquatic Life, Turbidity	Surface Erosion	Pocahontas Waterworks	7547
	Kings River	11010001	542/4K	DO	Unknown	Kingston School	250
	Beaver Lake	11010001	4K	Primary Contact, Turbidity, Pathogens	Surface Erosion	Beaver Water District	325942
	Beaver Lake	11010001	4K	Turbidity, Pathogens	Surface Erosion		
	Beaver Lake	11010001	4K	pH, Turbidity, Pathogens	-		

Basin	Stream Name	HUC	Rch/Pseg	WQ Standard(s)	Source	Public Water System	Total Population Served
Red River Basin	Mine Creek	11140109	819/1C	pH	Unknown	Caddo Waterworks Inc	30
	Caney Creek	11140109	921/1C	pH	Unknown		
	Saline River	11140109	014/1C	DO	Unknown	Dierks Water Works	2364
	Cossatot River	11140109	018/1C	DO	Unknown	Gillham Regional Water Dist	4240
	Little River	11140109	001/1C	Temp	Unknown	Hope Water Light Comm	15843
Ouachita River Basin	Saline River East Bifurcation	08040203	913/2C	Turbidity	Surface Erosion	Arkansas Health Center	1000
	North Fork Saline River	08040203	011/2C	DO	Unknown	Benton Waterworks	38635
	Alum Fork Saline River	08040203	014/2C	DO, pH	Unknown		
	Cedar Creek	08040203	021/2C	DO	Unknown		
	Lockett Creek	08040203	922/2C	DO	Unknown		
	Alum Fork Saline River	08040203	018/2C	pH	Unknown	Central Arkansas Water	429948
	Middle Fork Saline River	08040203	019/2C	DO	Unknown	Hot Springs Village Water	13921
	South Fork Ouachita River	08040101	043/2F	DO	Unknown	Caddo Valley Spring Water Co	50
	South Fork Caddo River	08040102	023/2F	DO	Unknown	Glenwood Water Department	7148
	Wilson Creek	08040101	901/2F	pH	Unknown	Kimzey Regional Water District	16900
	Indian Springs Creek	08040101	902/2F	DO, SO_4, TDS	Unknown		
	Cove Creek	08040102	970/2F	pH, Toxicity, Zn	Resource Extraction		
	Irons Fork	08040101	838/2F	DO, pH	Unknown	Mena Water Dept	10809
	Terre Noire Creek	08040103	002/2G	pH	Unknown	Camden Waterworks	22492
						Total Affected PWS Population =	***1204727***

Table 1. 2018 Draft Impaired Waterbodies 303(d) within Source Water Assessment Areas for Public Water Systems.