

**Responsiveness Summary to Comments Concerning Arkansas's
Draft 2018 List of Impaired Waterbodies (303(d) List)**

The Arkansas Department of Energy and Environment, Division of Environmental Quality (Department) appreciates all of those individuals and entities who submitted comments concerning the draft 2018 Impaired Waters List (303(d) list). The Department would like to reiterate that this most recent request for public comments was for the draft 2018 List of Impaired Waterbodies (303(d) list). Comments were received addressing other Department documents or issues, such as Assessment Methodology, Regulation No. 2, or specific NPDES permits that were not open to public comment at time of this public notice. The Department encourages the authors to re-submit those comments when those documents or issues are opened for public review and comment.

Comments were received from the individuals and/or entities listed in Appendix A: List of Commenters.

Pursuant to Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation 8.815(A)(2), public comments were summarized and grouped into twenty-two (22) categories.

Bayou DeView

Arkansas Watertrails Partnership and Harmon Chadbourn

Commenters stated that Bayou DeView (AR_08020302_002) and Buffalo Creek (AR_08020302_014) are proposed for classification as 5 - low, but should both be classified as 5 – high due to recreation uses and tourism dollars.

Response: The waterbodies listed in Category 5 are prioritized taking into consideration the guidance in 40 § CFR 130.7 (b)(4), “...taking into account the severity of the pollution and the uses to be made of such waters...” In addition, the priority ranking should “...include the identification of waters targeted for Total Maximum Daily Load (TMDL) development in the next two years. Therefore, any waterbody ranked as “high” within Category 5 will be targeted for TMDL development.” The ranking of a waterbody as High, Medium, or Low only designates which waterbodies should be targeted for TMDL development. It does not prioritize waterbodies for, or guarantee that restoration activities will be implemented. It is the Department’s understanding that other Federal and State agencies utilize the list of impaired waterbodies to prioritize areas for restoration activities regardless of the ranking designation.

During the ranking process, the Department takes into consideration the water quality constituent(s) that is not attaining water quality criteria, the magnitude and duration of the exceedance(s), and if a designated use(s) is not being supported. The highest priority is to protect those waterbodies currently being utilized as a domestic water supply. Waters with tier 3 designated uses, such as Extraordinary Resource Waters (ERW), Ecologically Sensitive Waterbody (NSW), and/or Natural and Scenic Waterway (NSW), are also given special consideration as well as any impairment that may have a direct effect on public health. However, the Department must also consider the likelihood that a TMDL will actually be affective in restoring water quality.

Both of these waterbodies were listed because the dissolved oxygen criteria was not being attained. In both instances, the number of exceedances and the magnitude of the exceedances were minimal. Neither waterbody is currently being used as a domestic water supply nor has any tier 3 designated uses been assigned to them.

Beaver Lake

Mark and Colleen Hajek

Commenters expressed concern that not enough was being done to prioritize protection of Beaver Lake, which is the drinking water source for about one million people. Concern was expressed regarding waste water facilities discharging into tributaries to Beaver. Concern was expressed that enforcement actions and fines are not being issued when appropriate.

Response: Waters designated as Domestic Water Supply have been given priority for investigation under Category 5 as noted in the Assessment Methodology “... Where more data and/or information are needed to verify the need for TMDL development or other corrective

action(s) for the listed parameter(s), the following waterbodies in Category 5 will be prioritized (on a case-by-case basis) for additional investigation: waters designated as ERW, ESW, or NSW; domestic water supplies; and waters located in known karst areas; or...”

There are currently 176 active NPDES permitted facilities in the Beaver Lake watershed (HUC 11010001). Between January 1, 2012 till October 1, 2018 there have been five (5) formal enforcement actions taken for NPDES permitted facilities in this watershed, including a total of \$15,975 in fines. While three of these enforcement actions noted either pH, dissolved oxygen, or pathogens, the facilities were either over 20 miles upstream or over 25 miles downstream from the impaired AUs (AR_11010001_4040, AR_11010001_4041, AR_11010001_4042)

Beaver Water District

Commenter stated it was unclear if the three AUs in Beaver Lake are listed as impaired due to *E. coli*, fecal coliform, or both. Commenter suggested would be clearer if the 303(d) list specified *E. coli*, fecal coliform, or both instead of pathogens.

Response: The Department received some fecal coliform data from USGS. However, no assessments could be made using fecal coliform data due to there being less than 8 samples per AU for both the primary and secondary contact seasons. Impairments noted as pathogens on the 2018 303(d) list are for non-attainment of the *E. coli* WQS.

Commenter noted that a "Designated Use Not Supported" is not provided for AUs AR_11010001_624, AR_11010001_824, AR_11010001_023, AR_11010001_926, and AR_11010001_959 and requested an explanation. Commenter also requested explanation for instances where the "Source of Contamination" for non-attainment of the Beaver Lake watershed streams is listed as "Unknown."

Response: There are instances where there is an insufficient weight of evidence to determine which, if any, of the Designated Uses are not being supported. This can occur where the magnitude of exceedance or number of exceedances for all exceedances is low. Failure to meet assessment criteria of a water quality constituent does not always lead to non-support of a designated use. There are instances where there is an insufficient weight of evidence to determine the Source of Contamination. This is especially true where multiple sources may be contributing to an impairment.

Commenter noted that seven AUs in the Beaver Lake watershed are listed as either "Low" or "Medium" priority and stated support for prioritization and attention for drinking water supply sources and their watersheds.

Response: The Department agrees that Beaver Lake is an important state drinking water source. The constituents listed as impaired in the tributaries of the Beaver Lake watershed are well below the drinking water criteria (sulfates and total dissolved solids), do not directly affect drinking water (dissolved oxygen), or a TMDL will not directly result in the implementation of restoration activities (Turbidity). In addition, addressing those total dissolved oxygen

concentrations that are the result of point source discharges is being addressed through the NPDES permitting program.

Commenter requested that the Department incorporate the USGS provisional data for Beaver Lake and its watershed from the entire period of record and that the Department revise its assessments, listings, and de-listings accordingly.

Response: The Department utilized all USGS data that was deemed “accepted” by USGS. The use of “provisional” data would be in violation of QA/QC protocols.

Commenter requested the Department consult with USGS on the appropriateness of utilizing the NTRU turbidity data and that the Department consider incorporating the USGS turbidity data for Beaver Lake and its watershed into its assessment of those waters for the 2018 303(d) List.

Response: The Department is unaware of any scientifically defensible literature that verifies that Nephelometric Turbidity Ratio Units (NTRUs) and Nephelometric Turbidity Units (NTU) are interchangeable. The use of data in units not in line with the water quality standards (Regulation No. 2) would be in violation of QA/QC protocols.

Big Creek and Buffalo River – Not Impaired

John Creager

Commenter noted algae at Kyle’s landing during the past 50 years and noted record low water levels due to minimal rainfall. Commenter asked if there is a comparison with any other watersheds in the Ozarks and if studies were done when the park service took over in 1972.

Response: Filamentous green algae has been documented in the river since inception of the Buffalo National River in 1972. Rippy and Meyer (1972) were among the first to document spatial and temporal distribution of algae in the Buffalo River. While many of the genera of algae documented in 1972 are still present in the river today, it is the abundance and spatial extent that has been amplified. In the last three years through citizen complaints and observations, the Department and the NPS have noted an increase of algae coverage from 20 miles (2016) to 90 miles (2018).

Arkansas Farm Bureau

Commenter suggested splitting Big Creek into more than one assessment unit (AU), with the head waters of Big Creek to the confluence of Dry Creek as the upper AU, Dry Creek to Left Fork Big Creek as the middle AU and, Left Fork Big Creek to the Buffalo River is the lower AU.

Response: The Department notes that Left Fork Big Creek to the Buffalo River is already a separate AU (AR_11010005_020). Splitting of Big Creek AU AR_11010005_022 is not needed at this time. The entirety of AR_11010005_022 is within the same ecoregion, there is no major tributary entering (Dry Creek AR_11010005_422 is ~7 sqmi), based on watershed size the same set of standards apply above and below Dry Creek, and land use is generally similar. Currently the Department does not have cause to split AR_11010005_022.

Commenter requested that if the 303(d) list was finalized with Big Creek as impaired for dissolved oxygen, that the Department continues dissolved oxygen monitoring on Big Creek AU AR_11010005_020.

Response: The majority of data used for assessment was provided by NPS and USGS. It is not the stance of the Department to direct the sampling plans for other entities.

Commenter agreed that the Watershed Management Plan is the proper management solution for attainment of the water quality criteria on Big Creek.

Response: The Department acknowledges the comment.

Arkansas Farm Bureau, Billy Wayne Shatwell, Brian Pruitt, Julie A Campbell, Newton County Assessor, Michael, Newton County Judge Warren Campbell, Patrick Winfrey, Rhea Freeman, Rickey McCutcheon, Steve Eddington, Sharon Pierce, Tana Henson

Several commenters requested Buffalo River and Big Creek not be listed as impaired. Several commenters questioned the data, data sources, and the scientific evidence for these listings.

Response: Pursuant to Ark. Code Ann. § 8-2-202, the Department administers an environmental laboratory accreditation program so that laboratories that submit data and analyses to the Department may be accredited by the Department as having demonstrated acceptable compliance with laboratory standards so that the validity of scientific data submitted to the Department may be further assured. All consulting laboratories performing analyses for which results are to be submitted to the the Department are required to obtain a laboratory accreditation through the Department's Environmental Laboratory Accreditation Program. Ark. Code Ann. § 8-2-206(a)(1)(A)(i). the Department's Environmental Laboratory Accreditation Program ensures that data submitted for regulatory, planning, permitting, or other functions will be of acceptable quality.

Pursuant to 40 C.F.R. § 130.7(b)(5), the Department assembles and evaluates all existing and readily available water quality data and information, from the Department and outside entities, to make water quality standard attainment decisions. Data are evaluated for use by determining adherence (or not) to data quality considerations outlined in the 2018 Assessment Methodology¹, Sections 3.3 and 6.0 and subsections thereof. The primary data used in the assessment of Arkansas's water quality are generated as part of the Department's water quality monitoring activities, described in the State of Arkansas's Water Quality Monitoring and Assessment Program, Revision 5 (DEQ 2013). Additionally, local, state, and federal agencies, and other entities are solicited by the Department to provide water quality data that meets or exceeds the Department's or USGS' QA/QC protocols. Any entity may submit water quality data to the Department without solicitation. All data received are evaluated for use by determining adherence (or not) to data quality considerations outlined in the 2018 Assessment Methodology. Data sets that meet all Phase I₂ and Phase II₃ data quality requirements can be used for attainment decisions. Phase I Data Quality Requirements are as follows:

- ▶ Be characteristic of the main water mass or distinct hydrologic areas. For example, not taken within a mixing zone, side channel, tributary, or stagnant back water, etc.

- ▶ Be reported in standard units recommended in the relevant approved method and that conform to APC&EC Regulation 2 or can be directly compared or converted to units within APC&EC Regulation 2.
- ▶ **Have been collected and analyzed under a QA/QC protocol equivalent to or more stringent than that of the Department or the USGS.** Data collection protocols should either be readily available or accompany the data. This includes *in situ* data.
- ▶ **All laboratory analyzed parameters (not *in situ*) must be analyzed pursuant to the rules outlined in the Environmental Laboratory Accreditation Program Act, Ark. Code Ann. §§ 8-2-201 *et seq.*** The name and location of the laboratory should either be readily available or accompany the data.
- ▶ **Be accompanied by precise collection metadata such as time, date, stream name, parameters sampled, chain-of-custody, and sample site location(s),** preferably latitude and longitude in either decimal degrees or degrees, minutes, seconds.
- ▶ Be received in either an Excel spreadsheet or compatible format not requiring excessive formatting by the Department
- ▶ **Have been collected within the period of record for the current assessment cycle.**
(emphasis added)

All data used in the 2018 Assessment of the State’s water quality met the Phase I and Phase II data quality requirements.

¹ <https://www.adeg.state.ar.us/water/planning/integrated/303d/pdfs/2018/final-2018-assessment-methodology.pdf>

² pages 13–14, 2018 Assessment Methodology

³ pages 14–15, 2018 Assessment Methodology

Big Creek and Buffalo - Impairment

John Van Brahana

Commenter expressed concern about not incorporating groundwater and dye-tracing data in the assessment of Big Creek and the Buffalo.

Response: The Department is unable to assess groundwater due to a lack of state adopted groundwater criteria and the lack of a specific assessment methodology for groundwater and dye-tracing data.

Buffalo River Watershed Alliance

Big Creek at Carver should be added for low dissolved oxygen values.

Response: Based off of USGS long-term continuously collected data, Big Creek at Carver was listed as impaired in Category 4b for dissolved oxygen for not meeting 6 mg/L during the critical season (Temperature >22.0 °C).

Buffalo River, Big Creek, and Buffalo River Watershed – Appendix B – List of 40 Commenters

Numerous individuals voiced concern about Buffalo River and Big Creek, and urged the Department to protect the Buffalo River watershed.

Response: The Department is committed to the protection of the Buffalo River and Big Creek. The Department collects water quality data on Buffalo River and Big Creek, monitors algae

blooms, collaborates with other state, federal, and watershed entities, and is involved in the Beautiful Buffalo River Action Committee.

Buffalo River & Big Creek Category 5 – Appendix C – List of 244 Commenters

Numerous individuals urged the Department to place Buffalo River and Big Creek in Category 5 instead of Category 4b.

Response: AUs AR_11110005_010, AR_11110005_011, AR_11110005_020, and AR_11110005_022 pathogen impairments will remain in Category 4b with updated Category 4b documentation provided in the 305(b) report.

Algae in the Buffalo River and Big Creek – Appendix D – List of 67 Commenters

Numerous individuals voiced concern about algae blooms on Buffalo River and Big Creek, and urged the Department to protect the Buffalo River watershed.

Response: Although common cyanobacteria have been identified in the Buffalo River, water samples do not indicate the presence of cyanotoxins. Additionally, the Department is working to support a collaborative study with the Arkansas Game and Fish Commission, US Geological Survey, and the National Park Service focused on the distribution and causation of filamentous algae in the Buffalo River.

White River Water Keeper

Commenter proposed a list of 23 AUs in the Buffalo River watershed (HUC 11010005) to add to the 303(d) list as impaired due to pathogens, turbidity, and/or inorganic nitrogen based on waterbody-pollutant pairs identified from the Buffalo River WMP.

Response: The Department followed the Assessment Methodology for nutrients which includes consideration of screening values for TP and TN, diurnal dissolved oxygen, and biological assemblages. Three of the AUs noted (AR_11010005_912, AR_11010005_009, and AR_11010005_804) were placed in Category 3 for nutrients. Category 3 streams are reported within Arkansas's 2018 Integrated Water Quality Monitoring and Assessment Report (305(b) report). Two of the AUs noted (AR_11010005_012, and AR_11010005_014) meet TP and TN screening levels. The remainder of the AUs lacked sufficient data to begin assessment of nutrient impairment.

Chamberlain, Cove, and Lucinda Creeks

Haliburton

Commenter noted Chamberlain Creek (AR_08040102_971), Cove Creek downstream of Chamberlain Creek (AR_08040102_970), and Lucinda Creek (AR_08040102_975) AUs near the DIM site are covered by a RADD. Commenter stated that Category 4b is appropriate because collectively, the DIM site RADD, EIP, and CAO LIS 16-043 address the six documentation items required listing as Category 4b.

Response: The Department concurs, AR_08040102_971, AR_08040102_970, and AR_08040102_975 will be revised to Category 4b.

Cossatot River

Arkansas Game and Fish Commission

Commenter requested the Cossatot River (AR_11140109_018) be listed as a Category 5 (high) for DO impairment, noting the presence of the federally threatened Leopard Darter, warming within the river, and problematic filamentous algae.

Response: The Department recognizes the Cossatot River is an important State resource both ecologically and economically. The Cossatot's importance is represented by its designation as an Extraordinary Resource Waterbody, Ecological Sensitive Waterbody, Natural and Scenic River, and Wild and Scenic River. However, developing a dissolved oxygen TMDL will have little effect in increasing the dissolved oxygen concentrations in the river, primarily because there are no NPDES facilities discharging to the Cossatot and thus no wasteload allocation would be developed, placing onus on the non-point source load allocation. It's unclear whether the mechanism for decreased dissolved oxygen is due to non-point source contributions or from hydrological variability. The Department encourages AGFC to report future events of extensive algal growth in a timely manner through the Nuisance Algae or Harmful Algae online reporting tools <https://www.adeg.state.ar.us/complaints/>.

Flint Creek Reservoir (Lake SWEPCO)

American Electric Power/SWEPCO

Commenter requested clarification regarding the impairment of Lake SWEPCO and cited a November 29, 2016 letter.

Response: Inclusion of Flint Creek Reservoir (Lake SWEPCO) AR_11110103_4060 on the Draft 2018 303(d) list Category 5 was inadvertent. For the 2018 303(d) list period of record Flint Creek Reservoir (Lake SWEPCO) assessed as meeting the aquatic life use. The delisting is supported by new fish population data collected in 2015 and 2016 by AGFC. Flint Creek Reservoir (Lake SWEPCO) AR_11110103_4060 will not be on the final 2018 303(d) list.

Fourche Creek

List of 85 Commenters - Appendix E

Commenters questioned that there was data to support the delisting of AR_11110207_022 for dissolved oxygen, temperature, and turbidity.

Response: The Department has two monitoring stations on Fourche Creek AR_11110207_022. For both monitoring stations ARK0131 and ARK0147C, monthly samples were taken during the 5 year period of record (4/1/12 to 3/31/17).

Commenters requested the addition of urban runoff to the source of contamination, noting that much of the Fourche Creek watershed is in the City of Little Rock and that multiple trash pickup have been conducted.

Response: Fourche Creek AR_11110207_024 was listed as impaired for dissolved oxygen and turbidity. Surface erosion has been identified as the source of the turbidity impairment. It is currently unknown as to what is causing the low dissolved oxygen concentrations. The Department agrees that the source of most of the trash in the creek is certainly from urban runoff

and that other trash occurs from illegal dumping. There are regulations and ordinances in place to address illegal dumping activities. There are also other non-regulatory activities that can be implemented to address this issue. Upon review of supporting documentation the Department concurs and Fourche Creek AR_11110207_024 will have urban runoff listed as a source of contamination.

Commenters requested primary and secondary contact uses be listed as not being supported because of pathogenic indicator bacteria, noting sanitary sewer overflows in the watershed.

Response: As noted in the Assessment Methodology, in order to make an assessment of designated use not support for primary and secondary contact recreation uses as a result of pathogens, a minimum of eight (8) samples must be collected during the primary contact season and a minimum of eight (8) samples must be collected during the secondary contact season. For the 2018 assessment cycle the Department did not have data that met these data quantity requirements.

Commenters requested Fourche Creek AR_11110207_024 have a priority of high, citing recreational use, trash clean up data, and restoration activities as supporting reasons.

Response: Upon review of supporting documentation the Department concurs and Fourche Creek AR_11110207_024 will have a priority of medium.

Steve and Shirley Scott – Fourche Creek Watershed

Commenters voiced concern about Fourche Creek Watershed, and urged the Department to protect the Fourche Creek watershed.

Response: The Department is committed to the protection of the Fourche Creek watershed. The Department collects water quality data on Fourche Creek and is involved in the Friends of Fourche Creek.

Holman Creek

Beaver Water District

Commenter requested that the Department clarify the listing or de-listing for Holman Creek and provide the justification.

Response: Inclusion of Holman Creek AR_11010001_059 on the Draft 2018 303(d) list Category 5 was inadvertent. For the 2018 303(d) list period of record Holman Creek AR_11010001_059 assessed as meeting TDS criteria. The delisting is supported by new data collected by both the Department and Beaver Water District. For the 2018 303(d) list period of record, there were a total of 62 TDS samples taken and only 7 of those samples were above water quality criteria. Holman Creek AR_11010001_059 will not be on the final 2018 303(d) list.

Illinois River

Appendix F – List of 16 Commenters

Numerous commenters expressed concern that several Illinois River watershed AUs were not in Category 5.

Response: As part of our review in response to these comments, it was noted that all assessment records result in an assessment of meeting pathogen criteria for AUs AR_11110103_023, AR_11110103_024, AR_11110103_025.

AR_11110103_023: AWRC was the only data provider. They provided data from 2012, 2013, and 2014 primary contact seasons. They collected from two sites within this reach which were sampled on the same day, therefore most data points were duplicated. We only use one data point from a single day within the same AU as per our AM. Thus, the 50 data points provided were culled to 25. Of these, there were 2 exceedances (there were no exceedances in the culled data points). Therefore the AU attains for pathogen criteria and primary contact recreation use.

AR_11110103_024: AWRC and USGS provided data for this AU from 2012, 2013, and 2014 primary contact seasons. There were 32 data points provided, all date meeting QA/QC, with only two exceedances. Therefore this AU attains for pathogen criteria and primary contact recreation use.

AR_11110103_025: AWRC was the only data provider. They provided data from 2012, 2013, and 2014 primary contact seasons. They collected from two sites on the same day, so half of their data were duplicates and culled as per AM. Of the 50 data points provided, 25 were used. There were four exceedances. Therefore this AU attains for pathogen criteria and primary contact recreation use.

Since an alternative restoration plan is in place, AUs AR_11110103_026, AR_11110103_027, AR_11110103_028, AR_11110103_630, and AR_11110103_933 pathogen listings will be in Category 5 alt with Category 5alt documentation provided in the 305(b) report.

Hal Holliday

Commenter voiced concern about algae in the Illinois River, and urged the Department to protect the Illinois River watershed.

Response: Arkansas and Oklahoma recently completed the Second Statement of Joint Principles and Actions. The two states also recently signed a Memorandum of Agreement implementing recommendations from the Final Report to Governors from the Joint Study committee and Scientific Recommendations. Joint Study Recommendations were to adopt a six-month rolling average total phosphorus criteria of 0.35 milligrams per liter during critical conditions to protect the Scenic River designated use. The two states agreed that the current standard of 0.37 milligrams per liter would still be protective and limit nuisance algae in the Illinois River.

Osage and Spring Creek

Appendix F – List of 16 Commenters

A commenter wanted to know why Osage Creek and Spring Creek were not on the list in category 4b. Numerous commenters expressed concern that Osage Creek and Spring Creek were not in Category 5.

Response: Osage Creek and Spring Creek were placed in Category 3 for nutrients. Category 3 streams are reported within Arkansas’s 2018 Integrated Water Quality Monitoring and Assessment Report (305(b) report).

Kings River

Arkansas Game and Fish Commission

Commenter requested justification for the Kings River (AR_11010001_037) being listed as category 5 (low) due to Total Dissolved Solids, noting the presence of the federally endangered Snuffbox mussel and other mussels classified as Species of Greatest Conservation Need (SGCNs).

Response: The Department agrees that the Kings River is an important State resource. However, the Department also realizes that elevated total dissolved solids concentrations are not completely the result of anthropogenic activities. The 1987 Ecoregion Survey indicates that total dissolved solids concentrations were generally greater than 150 mg/L and states “High dissolved solids are due to the limestone geology of the watershed” (1987 Ecoregion Survey). The data set used to assess AR_11010001_037 contained 69 data points. The maximum value was 279 mg/L, minimum was 95 mg/L, and the mean was 157 mg/L. Thus, there is little difference in the current total dissolved solids concentrations with historic concentrations. Prioritizing this waterbody for TMDL development would not lower the total dissolved solids concentrations in the Kings River. In addition, addressing those concentrations that are the result of point source discharges is being addressed through the NPDES permitting program.

Middle and Alum Fork Saline River

Arkansas Game and Fish Commission

Commenter noted that the Middle Fork Saline River (AR_08040203_019) & the Alum Fork Saline River (AR_08040203_014) have been designated as a category 5 (medium) due to non-attainment of the Dissolved Oxygen (DO) water quality standard and noted the presence of numerous SGCN, as well as a federally protected mussel species under the Endangered Species Act.

Response: The Department acknowledges your comment and appreciates your concerns about the water quality in the Saline River.

Mulberry River

Mulberry River Society

Commenter noted that the Mulberry River, and its tributaries, Little Mulberry Creek, and Friley Creek, are listed as Category 5, high due to pH. Commenter also noted that the Mulberry River is designated as an Extraordinary Resource Water and a National Scenic Waterway. Commenter suggested the Department consider all available research, expert reports, and agency recommendations in identifying and reporting water quality impairments. Restoration approaches should be pursued as soon as possible before there is irreparable harm to the river.

Response: The Department appreciates your concerns about the water quality of the Mulberry River and will continue to monitor the water quality as resources permit.

Wilson Creek and Indian Springs Creek

Umetco Minerals Corporation

Commenter stated that data collected at the EWCL monitoring station are not temporally or spatially representative of conditions in Wilson Creek. The commenter provided detailed explanation regarding the EWCL data and suggested EWCL data should be excluded from the assessment calculations.

Response: The Department concurs that data collected at the EWCL monitoring station is not characteristic of the main water mass and that depressed pH readings at this station were attributed to temporary conditions occurring due to active remediation activities during the time samples were taken. The Department notes that all 61 of the pH samples taken at station WILL were within the pH 6 to 9 criteria. Wilson Creek's final 2018 assessment is Category 1, attaining standards.

Commenter disagreed with the DO listing for Indian Springs Creek based on lack of representativeness of data at OUA0184A as well as using data that may have been collected in enduring pools during periods of negligible flow.

Response: The 8 samples noted above were all taken from monitoring station OUA0184B. Review of the field notes from these sampling events notes that flow was present during sampling.

Nutrient Impairments

White River Waterkeeper

Commenter noted two listings on the 2018 draft for nitrates (NO₃; Elcc Tributary – AR_8040201_606, Sager Creek – AR_11110103_932), both carried over from 2008. Commenter also noted no Cat. 5 listing decisions for any form of phosphorus have been proposed by the Department in the last ten years.

Response: In 2018, there were no segments of wadeable streams/rivers that had sufficient data to assess as impaired for nutrients. According to the 2018 Assessment Methodology, a segment is listed as impaired if all of the following conditions are met:

- Total Nitrogen /Total Phosphorus (TN/TP) data is evenly distributed
- mean TN/TP concentrations exceed the 75th percentile for the ecoregion
- the segment has continuous short term or long term data with at least one of the water quality translators exceeding criteria
- the segment has paired biological data that indicate impairment

The 2018 assessment cycle had 74 monitoring stations exceed the screening criteria for TN and/or TP. Of those stations, 15 stations met Phase II data quality considerations for dissolved oxygen and pH monitoring. Of those 15 stations, only two exceeded dissolved oxygen criteria. However, neither of those two stations had biological assemblages that were impaired, thus attaining Category 1 for nutrients.

303(d) public participation process

Beaver Water District

Commenter requested that for each Assessment Unit (AU), all data utilized and all data excluded from consideration for the current 303(d) list be made readily available through the Department'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 the Department's Assessment Methodology was applied and how determinations were made. Commenter requested that such a template be developed and that the completed worksheets be posted on the Department's website.

Response: The Department is committed to continuing to work toward making data and assessments readily available via web-based interface as resources allow.

Commenter requested that the Department, at the time the 303(d) list is publicly noticed, provide 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.

Response: The Department is committed to continuing to work toward making assessment decisions readily available via web-based interface as resources allow.

Beaver Water District & White River Water Keeper

Commenter requested that the draft "Integrated Report" 305(b) and 303(d), not just the proposed 303(d) list, be released for public review and comment.

Response: There are not statutory or regulatory requirements to public notice the 305(b) Report. Additionally, the Draft 2018 305(b) report was not public noticed because of its incomplete nature. Several sections of the Draft 2018 305(b) report are not completed until the completion of the 303(d) list, such as: Part I - Executive Summary, Part III Chapter 4 - Rivers and Streams Water Quality Assessment, Part III Chapter 5 Lake Water Quality Assessment, Part IV, and Appendix A.

Arkansas Public Policy Panel

Commenter requested the Department provide a justification for the proposed delisting of a stream segment or the removal of an individual water quality parameter along with the proposed 303(d) list.

Response: The Department is committed to continuing to work toward making assessment decisions readily available via web-based interface as resources allow.

Commenter stated that the addition of hyperlinks in the public notice and the interactive "Draft 2018 303(d) list StoryMap" were helpful additions. Commenter noted it would be helpful to include the public notice for the Proposed 2018 303(d) List on the "Public Notices" page of the Department's webpage and updated the quick links on the Water Quality Planning Branch webpage to state 2018 rather than 2016 Draft List of Impaired Waterbodies.

Response: The Department acknowledges your comment and appreciates your input on ways to improve the public's access to information.

Antidegradation

Arkansas Public Policy Panel, Alice Andrews, Beth Ardapple, Carol and Chuck Bitting, National Park Service, Ross Noland, White River Waterkeeper

Commenters expressed concern over a lack of specific Antidegradation analysis in the 303(d) process.

Response: The Department is working to develop an implementable interpretation of the Antidegradation Policy (Reg. 2.2). Upon approval by EPA, the antidegradation implementation will be incorporated into the Assessment Methodology.

Assessment Methodology

Arkansas Farm Bureau, Arkansas Public Policy Panel, National Park Service, Southwestern Power Administration, White River Water Keeper

Numerous Comments were received giving input on assessment procedures outlined in the 2018 Assessment Methodology.

Response: The Department acknowledges numerous comments regarding the Assessment Methodology used for the 2018 303(d) list. The Department will consider these comments during the 2020 Assessment Methodology review.

Domestic Water Supplies

Arkansas Department of Health

Commenter recommend several actions to prioritize protection of drinking water supplies.

Response: The protection of domestic water supply sources is a priority of the Department. It is also one of the determining criteria for prioritizing restoration and protection efforts among numerous state and federal government entities. The 2018 Assessment Methodology notes this priority in Category 5 low by stating “Where more data and/or information are needed to verify the need for TMDL development or other corrective action(s) for the listed parameter(s), the following waterbodies in Category 5 will be prioritized (on a case-by-case basis) for additional investigation: waters designated as ERW, ESW, or NSW; domestic water supplies; and waters located in known karst areas; or”

Extraordinary Resource Waters

National Park Service

Commenter stated interpretation of the CWA to give Extraordinary Resource Waters (ERW) status to those tributaries within the jurisdictional boundaries of the Buffalo National River and recommended assessment of these tributaries for pathogens using the geometric mean criteria.

Response: The Department acknowledges your comment.

Use of Category 4b

Arkansas Public Policy Panel, Beth Ardapple, Carol and Chuck Bitting, Ross Noland, White River Waterkeeper

Commenters noted that the “Category 4b Determinations” and the associated watershed plans do not fully meet the necessary elements of a Category 4b determination document:

1. Identification of segment and statement of problem causing the impairment;
2. Description of pollution controls and how they will achieve water quality standards;
3. An estimate or projection of the time when WQS will be met;
4. Schedule for implementing pollution controls;
5. Monitoring plan to track effectiveness of pollution controls; and
6. Commitment to revise pollution controls, as necessary.

Response: AUs AR_11110005_010, AR_11110005_011, AR_11110005_020, and AR_11110005_022 pathogen listings will remain in Category 4b with updated Category 4b documentation provided in the 305(b) report.

Buffalo River & Big Creek Category 5 – Appendix C – List of 244 Commenters

Commenters expressed concern about the placement of two Buffalo River AUs and two Big Creek AUs into Category 4b instead of into the Category 5 list of impaired waterbodies

Response: AUs AR_11110005_010, AR_11110005_011, AR_11110005_020, and AR_11110005_022 pathogen listings will remain in Category 4b with updated Category 4b documentation provided in the 305(b) report.

Beaver Water District and National Park Service

Commenters expressed concern about the placement of three Beaver Lake AUs into Category 4b instead of into the Category 5 list of impaired waterbodies.

Response: Since an alternative restoration plan is in place, AUs AR_11010001_4040, AR_11010001_4041, and AR_11010001_4042 pathogen, turbidity and pH listings will be in Category 5 alt with Category 5 alt documentation provided in the 305(b) report.

Arkansas Game & Fish Commission and National Park Service

Commenters expressed concern about the placement of Little Osage and the Illinois River Watershed AUs into Category 4b.

Response: Since an alternative restoration plan is in place, AUs AR_11110103_026, AR_11110103_027, AR_11110103_028, AR_11110103_630, and AR_11110103_933 pathogen listings will be in Category 5 alt with Category 5 alt documentation provided in the 305(b) report.

Appendix A: Full List of Commenters

Commenters submitting comments by orally at the public hearing:

David Finch
Ginny Masullo
Jessie Green- White River Water Keeper
Marti Olesen
Steve Blumreich –Friends of the North Fork and White Rivers
Gordon Watkins
Teresa Turk
Ed Brocksmith
Garry Lilley

Commenters submitting written comments:

Adam Schaffer	Beth Seward	Cheryl Clayborn
Aletha Tetterton	Bianca Armstrong	Cheryl Johnson
Alex Kent	Bill Pettit	Chris DeClerk
Alice Andrews	Billy Wayne Shatwell	Chris Handley
Alice Doyne	Bo Verser	Christian DeVries
Alice Shands	Bob & Kathleen Sinclair	Christopher Fischer
Alison Hester	Bob Allen -Arkansas	Chuck Bitting
Allison Hubbard	Chapter of the Sierra Club	Ciarra Murphy
Amanda Harris	Bob Allen - Arkansas	Cindy Jetton
Amy Hudson	Canoe Club	Clifford Brown
Andrea Moerman-Herzog	Bob Carlson	Cody Lorge
Andrea Morrow	Bonnie Laycook	Colene Gaston - Beaver
Andrew Lee	Brad Chilcote	Water District
Andy McCutcheon	Brad Taylor	Corbin Stinnett
Angela Brown	Brandon O'Neal	Craig Gann
Angela Cope	Brandy Whaler	Cristine Slikker
Ann Owen	Brenda Tirey	Dan Cohee -Citizens for
Anna H	Brian Pruitt	Clean Water
Anna Weeks - Arkansas	Brian Thompson	Dan Henry
Public Policy Panel	Bryan Rugar	Dan Scheiman -Audubon
Anne Holcomb	Byron Eubanks	Arkansas
Annee Littell	C Nagel	Dana Murdock Banks
Annette Pettit	Cameron Mullins	Dane Schumacher
Austin Lee	Carol Bitting	Danielle Nielsen
Bailey Stinnett	Carol Lane	Darcia Routh
Barbara Hinton	Carolyn Hendricks	Dave Mcphail -Friends of
Barbara Reding	Cece Hillard	the North Fork and White
Barry L Martindale	Chally Sims	Rivers
Becca Davis	Charles Allen Carney	David Adams
Belinda Jonak	Charles Finch	David Byrd
Beth Ardapple	Charles Transue	David Dougan
Beth Forbes	Charlie McGrew	David Finch

David Kuhne
David Martinson
David McCullough
David Parker
David Peterson -Ozark
Society
David Sloan
David Smith
David Wright
Dawn Cain
Dean Castle
Debbie Alexy
Debbie Doss - Arkansas
Watertrails Partnership
Delwin Slater
Demaris Elkins
Denise Barton
Devan Wright
Don Davis
Don Hamilton
Donna Combs
Donna Haynes
Donna Peterson
Donnal Walter
Doug Johnson
E.J. Buchanan
Ed Brocksmith
Ed Brocksmith - Save the
Illinois River
Edie Stahl
Eilish Palmer
Elaine Adams
Elene Murray
Elizabeth Cantwell
Ellanorah Wilson
Ellen Corley
Ellen Fennell
Ellen Hughes
Ellen Mitchell
Emily Kearns
Evelyn Sammons
Faith McLaughlin
Faith Mullins
Faron Davidson
Fay Knox

Forrest Payne - Friends of
Fourche Creek
Frances Buchanan
Frank Barton
Frank Wright
Frieda Schroder
Frita Ohlson -Department
of Energy - Southwestern
Power Administration
Gary Moody
George Wise
Gina Booth
Ginger Milan
Glenda Allison
Gordon Watkins -BRWA
Grant Scarsdale
Greg Grant and Paula
Haynes
Gregory O'Neal
Gundel Martin
Hal Holiday
Hank Van Rossum
Harmon Chadbourn
Harrison Hamer
Heather Hauckeba
Heather Smith
Helan Kling
Helen Pounds
Holly Adams
Holly Pilgrim
J Keith Grimwood
J Murdoch
James Brandenburg
James Krieger
James Mcginty -
Haliburton
James Morrow
Jana Browning
Janet Lager - Newton
County Assessor
Janice West
Janine Perlman
Jann Bell
Jean Pritchard
Jeff Hood
Jeff Ingram

Jeffery Hood
Jeffery Ingram
Jerrell Mullens
Jerry Hillard
Jerry Vaughn
Jessica Luraas
Jessica Walls
Jessie Green - White River
Water Keeper
Jim Hampton
Jim Kuzilik
Jim Westbrook
JM Lanaford
Jody Zimmerman
Joe Golden
Joe Smith
John Bailey - Arkansas
Farm Bureau
John Barton
John Chamberlin
John Creager
John Czarnecki
John S. Earney
John Taylor
John Van Brahana
John Watkins
Jonna Hussey
Joseph H Beil
Joseph Hutchinson
Joseph Nelson
Joy Harwood
Judi Nail
Judi Richardson
Judith Faust
Judith Stewart-Abernathy
Judy Maurer
Judy McCutcheon
Judy Quattlebaum
Judy Singleton
Julie Campbell
Justin Cloar
Justin Stroman
Karen Anderson
Karen Geiger
Karla Walden Caraway
Katherine Goodwin

Katherine Koch
Kathryn Hill
Kathy Downs
Kathy Roberts
Katy Starnes
Kay Fulton
Keep Little Rock Beautiful
Keith Runion
Kelley Stinnett
Kelly Mulhollan
Ken Duncan
Kenneth and Tracie Pape
Kenneth Carle
Kent Landrum
Kevin Carey
Kris Smith - NPS
Kristi Albrecht
Kurt Welborn
L. Braham
Lacey Horn
Larry
Larry Keith Harvey
Laura Ruhl
Lauren Chesney
LeAnn Evans Holmes
Leezh Hayes
Lin Wellford
Linda Haycook
Linda Payne
Linda Simmerman
Linda Sue Goosen
Lisa West
Liz Lottmann
Liz Ruby
Lloyd and Linda Smith
Lora Smith
Loretta Crow
Louetta Ricketts
Lowell Dillard
LuAnn Baker
Luanne Blaylock
Lucinda Summerlin
Lucy Sauer
Lydia Jane Michaels
Lynn Parker
Lynn Risser

Madison Fleeman
Mara Leveritt
Marcy Benham
Margaret Chaisson
Margaret Cheek
Margaret Morrell
Margaret Smith
Maria Morules
Marian Johnson
Marianna O'Dea
Marie Langer
Marilyn Fouts
Marilyn Sutton
Marissa Davis
Marita Nazariau
Marjorie Lacy
Mark and Colleen Hajek
Mark and Elizabeth Meier
Mark Davis
Mark Richards
Marquita Den Herder
Marti Olsen
Mary Anita Zisner
Mary Ellen Watson
Mary Imelda McClinton
Mary Jane Hickey
Mary Miller
Mary Schlatterer
Mary Simonson
Matt Cleveland
Matt Pekar
Melanie Norris
Melanie Talley Honeycutt
Melissa Jane Murphy
Melissa McCall
Melissa Triplett
Michael
Michael de Bays
Michael Haddigan
Michael Haley
Michael Kilpatrick
Michael Luther
Michael McLellan
Michele Langston
Mike Finley
Mike Kish Jr.

Mike Quearry
Mike Steelman
Miranda Scott
Mystiena Hackett
Nan & Davud Johnson-
Spencer
Nancy Baxter
Nancy Deisch
Nancy Harris
Nancy Kahanak
Neemah Esmaeilpour
Nina Prater
Noah Moses
Noel Mays
Pam Fraim
Pamela Cicioni
Pamela Ellwood
Pamela Stewart
Pat Hale
Patrick Horan & Gerhard
Mensch
Patrick Winfrey
Patti Williams
Paul and Judy McCune
Paula Matthews
Penny Manning
Peter Deisch
Philip Massirer - Umetco
Phillip Novick
Phyllis Head
Rachel Raglin
Ragan Sutterfield
Randall Harness
Ray Brookshire
Ray Stahl
Ray Thompson
Reahannon Jackson
Rebecca Hale
Rebecca Thompson
Rhea Freeman
Richard Hale
Richard Hester
Richard Hutchinson
Richard Rew
Rick Spicer
Rickey McCutcheon

Robert Brewer
Robert Cauley
Robert Thomason
Robyn Jones
Rodney Ford
Roger Burke
Roger Floyd
Ron Griffin
Ronny Clay
Roselyn Gira
Rosemary Davis
Ross Noland
Roy Emerson
Roy Wilson
Ruth Hurd
Ruth Shepherd
Ryan Christensen
Samantha Scheiman
Sanchari Ghosh
Sandra Avra
Sandy Cravens
Sarah Thompson
Scharmél Roussel
Scott Bailey
Scott Hood
Scott Ragelin
Scott Stanley
Sharon Fergusson
Sharon Pierce
Shawn Porter

Shelley Buonaiuto
Shelley Grunden
Shelley Rowan
Sherrie McIntyre
Sherry Asbell
Sherry Joyce
Stephanie Jordan
Steve and Shirley Scott
Steve Blumreich - Friends
of the North Fork and
White Rivers
Steve Combs
Steve Davison
Steve Eddington
Steve N. Wilson
Steve Parsons
Steven Laycook
Susan Fields
Susan Gateley - Mulberry
River Society
Susan Hautz
Susan Parsons
Susan Watkins
Susan White
Susanne Hirrel
Talley McSwain
Tammy Dodge
Tana Henson
Taylor Lauren Bridges
Teresa Franklin

Teresa Hayes
Teresa Turk
Terrie Martindale
Thomas Harris
Tim Robison
Tina Denney
Tom Utley
Trella Laughlin
Trish Pannell
Tyler Gipson -
Southwestern Power
Administration
Ulrike Meyer
Uta Meyer
Van Enderson
Vicke Adams
Vicki Juneau
Virginia Booth
Wallace Whiteker
Warren Campbell -
Newton County Judge
Westley Ashley
Willaim Dean
William Dark
William Deece
William Jones
Woody Jackson
Zac

Appendix B: List of 40 Commenters - Buffalo River, Big Creek, and Buffalo River Watershed

Bo Verser	John S. Earney	Phillip Novick
Bob & Kathleen Sinclair	John Watkins	Robert Brewer
David Adams	Joseph Hutchinson	Ron Griffin
David Byrd	Judy Singleton	Roselyn Gira
Denise Barton	L. Braham	Roy Wilson
Ellanorah Wilson	Linda Sue Goosen	Sandy Cravens
Ellen Mitchell	Margaret Cheek	Scott Stanley
Frank Barton	Margaret Smith	Susan Fields
Gina Booth	Marianna O'Dea	Tammy Dodge
Greg Grant and Paula	Mary Miller	Teresa Hayes
Haynes	Michael Luther	Trella Laughlin
Heather Smith	Mike Finley	Van Enderson
Jeff Ingram	Noel Mays	William Deece
Jeffery Hood	Paula Matthews	

Appendix C: List of 244 Commenters - Buffalo River & Big Creek Category 5

Aletha Tetterton	Christopher Fischer	Frank Wright
Alice Andrews	Chuck Bitting	George Wise
Alice Shands	Ciarra Murphy	Ginger Milan
Alison Hester	Clifford Brown	Glenda Allison
Allison Hubbard	Corbin Stinnett	Gordon Watkins - BRWA
Amanda Harris	Craig Gann	Grant Scarsdale
Amy Hudson	Cristine Slikker	Gregory O'Neal
Angela Cope	Dan Cohee - Citizens for	Gundel Martin
Anna H	Clean Water	Hank Van Rossum
Annee Littell	Dana Murdock Banks	Harmon Chadbourn
Annette Pettit	Dane Schumacher	Harrison Hamer
Bailey Stinnett	Dave Mcphail - Friends of	Helan Kling
Barbara Hinton	the North Fork and White	Helen Pounds
Barbara Reding	Rivers	Holly Adams
Barry L Martindale	David Dougan	Holly Pilgrim
Becca Davis	David Finch	J Keith Grimwood
Beth Seward	David Kuhne	J Murdoch
Bianca Armstrong	David Martinson	James Brandenburg
Bill Pettit	David Peterson - Ozark	Jana Browning
Bob Allen - Arkansas	Society	Janice West
Canoe Club	David Sloan	Jeffery Ingram
Bob Allen - Arkansas	David Smith	Jerrell Mullens
Chapter of the Sierra Club	David Wright	Jerry Hillard
Bonnie Laycook	Debbie Alexy	Jessica Luraas
Brad Taylor	Debbie Doss - Arkansas	Jessica Walls
Brian Pruitt	Watertrails Partnership	Jessie Green - White River
Brian Thompson	Demaris Elkins	Water Keeper
Byron Eubanks	Devan Wright	Jim Westbrook
Cameron Mullins	Donna Combs	JM Lanaford
Carol Bitting	Donna Peterson	Jody Zimmerman
Carol Lane	Doug Johnson	Joe Golden
Cece Hillard	E.J. Buchanan	John Taylor
Chally Sims	Edie Stahl	John Van Brahana
Charles Allen Carney	Elaine Adams	Joseph H Beil
Charles Finch	Elizabeth Cantwell	Joseph Nelson
Charles Transue	Ellen Corley	Judi Nail
Charlie McGrew	Evelyn Sammons	Judi Richardson
Cheryl Clayborn	Faith McLaughlin	Judith Faust
Chris Handley	Fay Knox	Judy Maurer

Judy Quattlebaum	Marissa Davis	Paula Matthews
Karen Anderson	Marita Nazariau	Penny Manning
Karen Geiger	Mark and Elizabeth Meier	Peter Deisch
Karla Walden Caraway	Mark Davis	Phyllis Head
Katherine Koch	Mark Richards	Rachel Raglin
Kathryn Hill	Marquita Den Herder	Randall Harness
Kathy Downs	Marti Olsen	Ray Stahl
Kathy Roberts	Mary Anita Zisner	Ray Thompson
Katy Starnes	Mary Ellen Watson	Reahannon Jackson
Kay Fulton	Mary Imelda McClinton	Rebecca Thompson
Kelley Stinnett	Mary Jane Hickey	Richard Hale
Kelly Mulhollan	Mary Schlatterer	Richard Hester
Ken Duncan	Matt Cleveland	Richard Hutchinson
Kenneth and Tracie Pape	Matt Pekar	Richard Rew
Kenneth Carle	Melanie Talley Honeycutt	Rick Spicer
Kent Landrum	Melissa Jane Murphy	Robert Cauley
Kris Smith - NPS	Melissa McCall	Robert Thomason
Kristi Albrecht	Melissa Triplett	Robyn Jones
Kurt Welborn	Michael de Bays	Roger Burke
Larry	Michael Kilpatrick	Roger Floyd
Lauren Chesney	Michael McLellan	Ronny Clay
LeAnn Evans Holmes	Mike Quearry	Rosemary Davis
Leezh Hayes	Mike Steelman	Roy Emerson
Lin Wellford	Miranda Scott	Ruth Hurd
Linda Payne	Mystiena Hackett	Ruth Shepherd
Linda Simmerman	Nan & Davud Johnson-	Sarah Thompson
Lisa West	Spencer	Scharmel Roussel
Liz Lottmann	Nancy Baxter	Scott Bailey
Lloyd and Linda Smith	Nancy Harris	Scott Ragelin
Lora Smith	Nancy Kahanak	Scott Stanley
Loretta Crow	Nina Prater	Shawn Porter
Lucinda Summerlin	Noah Moses	Sherrie McIntyre
Lydia Jane Michaels	Pam Fraim	Sherry Asbell
Lynn Risser	Pamela Cicioni	Sherry Joyce
Madison Fleeman	Pamela Stewart	Stephanie Jordan
Marcy Benham	Pat Hale	Steve Blumreich - Friends
Margaret Chaisson	Patrick Horan & Gerhard	of the North Fork and
Maria Morules	Mensch	White Rivers
Marian Johnson	Patti Williams	Steve Combs
Marilyn Fouts	Paul and Judy McCune	Steve Davison

Steve N. Wilson
Steve Parsons
Steven Laycook
Susan Hautz
Susan Parsons
Susan Watkins
Susan White

Talley McSwain
Teresa Franklin
Teresa Turk
Thomas Harris
Tina Denney
Trish Pannell
Vicki Juneau

Virginia Booth
Wallace Whiteker
Willaim Dean
William Dark
Woody Jackson

Appendix D: List of 67 Commenters - Algae in the Buffalo River and Big Creek

Aletha Tetterton	Jana Browning	Mike Steelman
Alice Shands	Jeffery Ingram	Nancy Deisch
Allison Hubbard	Jim Hampton	Pamela Ellwood
Andrew Lee	Jim Kuzilik	Phyllis Head
Angela Cope	Jim Westbrook	Randall Harness
Bob Carlson	Jody Zimmerman	Ruth Shepherd
Carol Bitting	John Creager	Ryan Christensen
Chris DeCLerk	John Taylor	Sandra Avra
Cindy Jetton	Jonna Hussey	Sharon Fergusson
Cristine Slikker	Judith Faust	Shawn Porter
David Finch	Judith Stewart-Abernathy	Shelley Buonaiuto
David Sloan	Judy Quattlebaum	Shelley Rowan
Dean Castle	Karen Geiger	Sherrie
Don Davis	Kathy Downs	Sherry Asbell
Donna Peterson	Kathy Roberts	Sherry Joyce
Eilish Palmer	Larry	Susan Parsons
Frieda Schroder	Loretta Crow	Terrie Martindale
Grant Scarsdale	Marie Langer	Tina Denney
Hank van Rossum	Marita Nazariau	Trish Pannell
Helan Kling	Mary Jane Hickey	Virginia Booth
Holly Pilgrim	Melissa McCall	Zac
James Brandenburg	Michael	
James Krieger	Michael Haley	

Appendix E: List of 85 Commenters – Fourche Creek

Adam Schaffer	Donnal Walter	Linda Haycock
Alex Kent	Elene Murray	Liz Ruby
Amy Hudson	Ellen Fennell	Lowell Dillard
Andrea Moerman-Herzog	Ellen Hughes	LuAnn Baker
Angela Brown	Emily Kearns	Luanne Blaylock
Ann Owen	Faith Mullins	Lucy Sauer
Anna Weeks - Arkanss	Forrest Payne - Friends of	Lynn Parker
Public Policy Panel	Fourche Creek	Mara Leveritt
Anne Holcomb	Frances Buchanan	Margaret Morrell
Austin Lee	Gary Moody	Marilyn Sutton
Beth Forbes	Grant Scarsdale	Marjorie Lacy
Brad Chilcote	Harmon Chadbourn	Mary Simonson
Brenda Tirey	Heather Hauckeba	Melanie Norris
Bryan Rupar	Janine Perlman	Michael Haddigan
C Nagel	Jann Bell	Michele Langston
Cheryl Johnson	Jean Pritchard	Mike Kish Jr.
Christian DeVries	Jeff Hood	Nancy Baxter
Cody Lorge	Jerry Vaughn	Neemah Esmaeilpour
Dan Henry	John Barton	Ragan Sutterfield
Dan Scheiman - Audubon	John Chamberlin	Rebecca Hale
Arkansas	John Czarnecki	Rodney Ford
Danielle Nielsen	John Taylor	Samantha Scheiman
David McCullough	Joy Harwood	Shelley Grunden
David Parker	Judi Richardson	Susanne Hirrel
Debbie Doss - Arkansas	Justin Cloar	Tom Utley
Watertrails Partnership	Katherine Goodwin	Ulrike Meyer
Delwin Slater	Keep Little Rock Beautiful	Uta Meyer
Demaris Elkins	Keith Runion	Westley Ashley
Don Hamilton	Larry Keith Harvey	William Jones
Donna Haynes	Laura Ruhl	

Appendix F: List of 15 Commenters – Osage and Spring Creek

Andrea Morrow

Brandy Whaler

Carolyn Hendricks

Dawn Cain

Ed Brocksmith

Ed Brocksmith - Save the Illinois River

Faron Davidson

James Morrow

Joe Smith

Kevin Carey

Lacey Horn

Ray Brookshire

Sanchari Ghosh

Scott Hood

Tim Robinson

Vicke Adams