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U.S. DISTRICT COURT
N.D. OF ALABAMA

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

BLACK WARRIOR RIVER-KEEPER, INC. Plaintiff, v. U.S. ENVIRONMENTAL PROTECTION AGENCY; ACTING ADMINISTRATOR ANDREW WHEELER, U.S. Environmental Protection Agency; and ACTING REGIONAL ADMINISTRATOR MARY WALKER, U. S. Environmental Protection Agency Region 4 Defendants.	)	Case No. _____

COMPLAINT

I. PRELIMINARY STATEMENT

1. Plaintiff Black Warrior Riverkeeper, Inc. ("Riverkeeper") challenges the United States Environmental Protection Agency's ("EPA") failure to ensure that the State of Alabama's 2018 § 303(d) List included all waterbodies impaired by pollution as required by the Federal Water Pollution Control Act ("Clean Water Act"). This suit is brought under the Administrative Procedure Act ("APA")

challenging EPA's arbitrary approval of the State of Alabama's delisting (removal) of impaired waters from its 2018 § 303(d) list without requiring supporting evidence that these waters now meet applicable standards.

2. EPA failed to consider all relevant information about Alabama's waterbodies and pollutants as required. Instead, EPA approved the State of Alabama's arbitrary removal of certain waterbodies from Alabama's § 303(d) list, despite the fact that they had previously been determined to be impaired, without proper evidence that they are now meeting water quality standards. As a result, these waters are not scheduled for the establishment of Total Maximum Daily Loads ("TMDLs") and will be excluded from the subsequent implementation of water-quality based point and nonpoint source pollution control measures that are necessary to restore these waters to health.[1]

3. EPA is a federal agency subject to the APA. 5 U.S.C. § 701(b)(1).

4. The APA provides that a court shall set aside agency "findings, conclusions, and actions" that are "arbitrary, capricious, or an abuse of discretion or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). *See also Sierra Club, Inc. v. Leavitt*, 488 F.3d 904, 911 (11th Cir. 2007).

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[1] *See* 40 CFR § 130.2(i). A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as a planning tool for restoring water quality.

5. The reviewing court must carefully "consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error in judgment." *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971).

II. JURISDICTION AND VENUE

6. This court has jurisdiction over this matter pursuant to 28 U.S.C. § 1331 (action arising under the laws of the United States); and 28 U.S.C. §§ 2201-2202 (declaratory judgment action).

7. Defendants are a federal agency and officers thereof. Venue is appropriate in this judicial district pursuant to 28 U.S.C. § 1391(e) because the activities complained of include activities located in this District. Plaintiff Riverkeeper resides in this District and Division.

8. Although neither the APA nor the Clean Water Act require the exhaustion of administrative remedies, Riverkeeper has exhausted its administrative remedies or has no administrative remedies for the matters raised herein.

III. PARTIES AND STANDING

9. Plaintiff Riverkeeper is an Alabama nonprofit membership corporation with over 4,000 members that is dedicated to the protection and restoration of the Black Warrior River and its tributaries. Riverkeeper actively supports effective implementation and enforcement of environmental laws, including the Clean

Water Act, on behalf and for the benefit of its members. Riverkeeper's principal place of business is in Birmingham, Alabama, which is in the Northern District of Alabama, Southern Division.

10. Members of Riverkeeper use and value a number of Alabama's impaired or § 303(d) listed waters for recreation, including but not limited to, paddling, boating, fishing, swimming, wildlife observation and study, nature and landscape observation and photography, and for aesthetic enjoyment. Some members also own property near or adjacent to these waters.

11. Certain Riverkeeper members are adversely affected by the reduced quality of, or failure to meet water quality standards in, the Alabama streams that the state and EPA wrongly failed to include on Alabama's 2018 § 303(d) List.

12. Riverkeeper and its members are adversely affected by the failure of EPA to fully identify and list these impaired waters in Alabama, as such streams will not receive the maintenance and improvement of their water quality that occurs by including them on the state's § 303(d) List and subsequent establishment of a TMDL. Riverkeeper's injuries that are caused by EPA can be redressed by this Court.

13. In addition, Riverkeeper, in furtherance of their organizational goals, uses the type of information that would be available were Alabama or EPA to create an adequate § 303(d) List as required by law. 33 U.S.C. § 1313(d). Riverkeeper's

members and staff gather available information relevant to impaired waters in the Black Warrior basin and the TMDL process, analyze that information, and intend to use it in the future. For example, they have used it in public comments on draft National Pollutant Discharge Elimination System ("NPDES") permits and the Alabama TMDL program. Accordingly, the absence of information required by 33 U.S.C. § 1313(d) directly and adversely affects the informational interests and organizational activities of Riverkeeper.

14. Defendant Wheeler is the Acting Administrator of the EPA. Pursuant to the Clean Water Act and the regulations promulgated thereunder, he is charged with the supervision and management of all EPA decisions and actions, and with the administration of the Clean Water Act. Mr. Wheeler is sued in his official capacity only.

15. Defendant Walker is the Acting Regional Administrator of EPA Region 4, which includes the State of Alabama. Pursuant to the Clean Water Act and the regulations promulgated thereunder, she is charged with the supervision and management of EPA decisions and actions, and with the administration of the Clean Water Act in Region 4. Ms. Walker is sued in her official capacity only.

16. Defendant EPA is the agency of the federal government that has the primary responsibility of administering the Clean Water Act and protecting the waters of the United States from pollution.

IV. LEGAL BACKGROUND

17. Congress passed the Clean Water Act ("CWA") in 1972 to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." 33 U.S.C. § 1251.

18. The CWA focuses on two general sources of pollution: point sources and nonpoint sources. Point sources are "any discernible, confined, and discrete conveyance," including pipes, ditches, conduits or vessels "from which pollutants are or may be discharged." 33 U.S.C. § 1362(14). Nonpoint sources are any non-discrete source, such as runoff from agriculture, forestry, or construction activity. Point source pollution is subject to technology-based controls through the NPDES permit process, which sets limits on the amount of pollutants that may be released from each point source. Where such controls are inadequate to maintain clean water, the CWA mandates a water quality-based approach. 33 U.S.C. § 1313(d).

19. Water quality standards are "provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses." 40 C.F.R. §131.3(i). Water quality standards are designed "to protect the public health or welfare, enhance the quality of water and serve the purposes" of the CWA. *Id.* States must establish water quality standards based on the uses of the waters and the amount of pollution that would impair those uses, subject to review and approval by EPA. 33 U.S.C. §

1313(a)-(c). States establish these standards at levels necessary to protect the "public health or welfare, enhance the quality of water and serve the purposes of" the Clean Water Act. 33 U.S.C. § 1313(c)(2)(A).

20. Each state must then identify all waters for which technology-based NPDES permits alone are insufficient to implement applicable water quality standards. 33 U.S.C. § 1313(d)(1)(A). These waters are called Water Quality Limited Segments ("WQLSs").

21. Having identified all WQLSs within its boundaries, a state must then prioritize them based on "the severity of pollution and the uses to be made of such water." 33 U.S.C. § 1313(d)(1)(A).

22. States must then develop, in accordance with the priority ranking of the WQLSs, a TMDL for each pollutant identified by the EPA as suitable for such calculation "at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." 33 U.S.C. § 1313(d)(1)(C). In other words, TMDLs establish the maximum amount of pollutants a water body can receive on a daily basis without violating the state's water quality standards.

23. A TMDL includes best estimates of pollution from nonpoint sources and natural background sources, pollution from point sources, and a margin of safety. 40 C.F.R. § 130.2(i).

24. Each state must submit to EPA for its review and approval (or disapproval) a list of WQLSs, known as its CWA § 303(d) List. Under current EPA regulations, states submit their WQLS lists every two years. 40 C.F.R. § 130.7(d)(1).

25. As part of its submission to the EPA, states must supply documentation to support decisions to list or not list waters. Such documentation must include, at a minimum, the following information: (1) a description of the methodology used to develop the list, (2) a description of the data and information used to identify waters, (3) a rationale for any decision to not use any existing and readily available data and information and (4) any other reasonable information requested by the Region. 40 C.F.R. § 130.7(b)(6).

26. Once states submit their lists of WQLSs and TMDLs, EPA must review the submissions within 30 days. If EPA disapproves of the identification of WQLSs or the list of TMDLs, it has 30 days in which to make its own identification or list. 33 U.S.C. § 1313(d)(2). Similarly, if a state fails to submit a list of WQLSs or TMDLs, EPA has a mandatory duty to make its own identification or list. *Id.*

V. BACKGROUND FACTS

27. On or about February 11, 2018, Alabama issued its 2018 Draft Section 303(d) List ("Draft List")[2] and Fact Sheet.[3]

28. As a part of that process, Alabama proposed to delist several streams in the Black Warrior basin.

29. Among those streams in the Black Warrior basin the state proposed to delist was a segment of Lost Creek (AL03160109-0403-103) (Segment #1) which flows from U. S. Highway 78 at Carbon Hill down to U. S. Highway 78 north of Cedrum, Alabama. Segment #1 of Lost Creek has been listed as impaired since 1998 due to siltation (habit alteration) from abandoned surface mining.[4] Lost Creek is a tributary of the Mulberry Fork of the Black Warrior River in Walker County, Alabama, which is in the Northern District of Alabama.

30. Another segment of Lost Creek (AL03160109-0405-104) (Segment #2) was also proposed for delisting by the 2018 Draft List. Segment # 2 flows from the mill dam at Cedrum to Alabama Highway 69 at Oakman, Alabama. Segment #2

[2] http://www.adem.state.al.us/programs/water/wquality/Draft2018AL303dList.pdf.

[3] http://www.adem.state.al.us/programs/water/wquality/Draft2018AL303dFactSheet.pdf

[4] http://www.adem.state.al.us/programs/water/wquality/2016AL303dList.pdf.

of Lost Creek has been listed as impaired since 1998 due to siltation (habit alteration) from abandoned surface mining.[5]

31. The federally endangered Black Warrior waterdog and critically threatened Flattened Musk Turtle, found in the Black Warrior watershed and nowhere else in the world, are known to be in Lost Creek historically[6] and are believed to be there currently. Siltation has been identified as the biggest threat to the Flattened Musk Turtle; the primary source is from coal mine operations, although runoff from agriculture, forestry and construction also contribute (Dodd, *et al.* 1986). There is a strong correlation between high siltation levels and population declines of these animals (Ernst *et al.* 1989). Black Warrior waterdog habitat is similar to that of the flattened musk turtle and water quality degradation is the primary threat to its continued existence; Bailey (2000, pp. 19-20) considered water quality degradation to be the primary reason for the extirpation of this species over much of its historical range in the Upper Black Warrior system. The U. S. Fish & Wildlife Service assigned the waterdog a listing priority number of 2, which indicates the amphibian is a species with threats that are both imminent and high in magnitude. 81 Fed. Reg. 69500 (October 6, 2016).

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[5] *Id.*

[6] E.g., Black Warrior waterdog (http://www.encyclopediaofalabama.org/article/h-4061; Flattened Musk Turtle (https://www.researchgate.net/figure/Adult-Sternotherus-depressus-from-Lost-Creek-Alabama-Left-female-Right-male-Photo_fig2_322603300).

32. Big Yellow Creek (AL03160112-0201-102) is another stream in the Black Warrior basin the Draft List proposed for delisting. Alabama has listed Big Yellow Creek as impaired for metals (lead) from abandoned surface mining since 1998.[7] Big Yellow Creek is a tributary of the Black Warrior River in Fayette and Tuscaloosa Counties, Alabama, which are in the Northern District of Alabama.

33. On March 13, 2018, Riverkeeper filed public comments on Alabama's Draft List, providing a copy to EPA Region 4. (Exh. 1).

34. In those comments, Riverkeeper objected to the delisting of Segment #1 and Segment #2 of Lost Creek as well as the delisting of Big Yellow Creek because available data failed to support the delisting of these waterbodies.

A. Proposed Delisting of Lost Creek

35. Alabama explained its rationale for the proposed delisting of Segment #1 and Segment #2 of Lost Creek in an October 2017 Delisting Decision.[8] That decision concluded that "available data for Lost Creek indicates that impairment for Siltation (habitat alteration) does not currently exist" so Alabama "will not develop a TMDL due to 'more recent data' which is a just cause for delisting

[7] *Id.*

[8] *Delisting Decision for Siltation (Habitat Alteration) for Lost Creek* ("*Delisting Decision*"), http://www.adem.alabama.gov/programs/water/delistings/DraftLostCreekSiltationDelistingReportOctober2017.pdf.

waterbodies according to Title 40 of the Code of Federal Regulations (CFR), Part 130.7(b)(6)(iv)." *Delisting Decision* at 10.

36. The "more recent data" which Alabama cites in its Delisting Decision is not more recent data at all. In fact, it is data from monitoring studies that has been available since 2012 and 2013 --- and it largely supplied the factual basis for the continued inclusion of Segment #1 and Segment #2 on Alabama's 2014 and 2016 § 303(d) Lists.[9]

37. When this data ---bioassessment results and water chemistry analysis--- was originally compiled for Segment #1, the State of Alabama concluded that the "elevated level of total dissolved solids support the continued inclusion of Lost Creek at LOSW-5 on the CWA 303(d) list for siltation" and stated that the "TMDLs for these impairments is [sic] set to be drafted in 2014." *2012 Monitoring Summary for Segment #1* at 2. Total dissolved solids in this segment averaged 538.5 mg/L at LOSW-5, the collection station where the water chemistry analysis was performed. *Id*.

38. Similarly, when this same data was compiled for Segment #2, the State of Alabama concluded that the "elevated level of total dissolved solids support the continued inclusion of Lost Creek at LOSW-1 on the CWA 303(d) list for

[9] The 2012 Monitoring Summary for Segment #1 is found at http://www.adem.alabama.gov/programs/water/delistings/DraftLostCreekSiltationDelistingReportOctober2017.pdf ; the 2012 & 2013 Monitoring Summary for Segment #2 is found at http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LostCk-ALHwy69.pdf.

siltation" and stated that the "TMDLs for these impairments is set [sic] to be drafted in 2014." *2012 & 2013 Monitoring Summary for Segment #2* at 2. Total dissolved solids in this segment averaged 629.0 mg/L at LOSW-1, the collection station where the water chemistry analysis was performed. *Id.*

39. Alabama's October 2017 Delisting Decision explicitly relied on the data from the Segment #1 and Segment # 2 Monitoring Summaries, the very data the state used previously to conclude that these waterbodies were impaired. However, in the Delisting Decision, the state cited "additional" 2013 data from two more sampling stations in Lost Creek, LOSW-2 (Segment #2)[10] and LOSW-4 (Segment #1).[11]

40. Samples of total dissolved solids at LOSW-2 during this time averaged 726.875 mg/L; at LOSW-4 they averaged 324 mg/L. *See* Exh. 2. These concentrations of total dissolved solids are comparable to the averages that Alabama found supported the continued inclusion of these waters on the § 303(d) List in 2014 and 2016. In fact, the average concentration of total dissolved solids

[10] EPA Water Quality Portal, found at https://www.waterqualitydata.us/portal/#countrycode=US&statecode=US%3A01&countycode=US%3A01%3A127&siteid=21AWIC-323&startDateLo=01-01-2012&startDateHi=01-01-2014&mimeType=xlsx.

[11] EPA Water Quality Portal, found at https://www.waterqualitydata.us/portal/#countrycode=US&statecode=US%3A01&countycode=US%3A01%3A127&siteid=21AWIC-325&startDateLo=01-01-2012&startDateHi=01-01-2014&mimeType=xlsx.

at LOSW-2 even exceeds the average measurements that Alabama relied upon to keep these segments on the state's § 303(d) List in 2014 and 2016.

41. However, instead of continuing to use total dissolved solids as the necessary benchmark to measure impairment (and any improvement), Alabama arbitrarily changed the rules of the game in 2018. The state abandoned the total dissolved solids yardstick it had used for previous Lists for a turbidity measurement to evaluate whether the two segments of Lost Creek were impaired for siltation. While Alabama offered an explanation for using turbidity to analyze impairment, it failed entirely to explain why using total dissolved solids was no longer a satisfactory benchmark. Without explanation, the state also ignored data for total dissolved solids which supported the segments' previous (and continued) inclusion on Alabama's 2018 § 303(d) List.

42. Even though the metric of total dissolved solids that the state used in the past required Alabama to retain the two segments of Lost Creek on the State's § 303(d) List, the state delisted these waterbodies in its 2018 § 303(d) List. The state failed to explain its methodology to discard the metric of total dissolved solids to measure impairment nor did the state supply a rationale for the decision not to use the existing and readily available data for total dissolved solids that placed the two segments on the state's previous § 303(d) Lists. 40 CFR § 130.7(b)(6). While acknowledging that total dissolved solids measurements were higher than

applicable eco-reference values, the state summarily concluded that the inclusion of data for total suspended solids and turbidity was now "sufficient evidence" that Lost Creek was no longer impaired for siltation. *ADEM's Response to Comments Concerning Alabama's Draft 2018 § 303(d) List* (Exh. 2) ("*ADEM's Response"*) at 5.

43. On September 17, 2018, EPA generically approved Alabama's 2018 § 303(d) List as submitted, including the wrongful delistings of Segment #1 and Segment #2 of Lost Creek.

> For all the proposed delistings, the State provided a rationale and/or supporting documentation which the EPA fully considered as part of its review. The EPA concluded that the State's "good cause" justifications were sufficient for the 30 waterbody/pollutant combinations and is approving the delisting of those water quality limited segments from Alabama's section 303(d) list.

EPA's *Approval of the Alabama Department of Environmental Management 2018 §303(d) List Decision Document* at 18.

B. Proposed Delisting of Big Yellow Creek

44. The 2016 §303(d) list stated that Big Yellow Creek was impaired for lead from Bankhead Lake to its source and assigned it a "high priority" for the development of a TMDL. *Big Yellow Creek Delisting Decision* (January 2018).[12]

[12] http://www.adem.alabama.gov/programs/water/delistings/DraftBigYellowCreekMetalsPbDelistingJanuary2018.pdf.

45. Alabama did not develop a TMDL; in a sudden reversal, the state instead proposed to delist Big Yellow Creek in 2018. *Id.*

46. The Clean Water Act requires the State of Alabama to document its decision to the Region 4 Administrator whether to list or not list its waters as impaired. 40 C.F.R. § 130.7(b)(6). Part of that documentation must include a description of the methodology the state uses to develop the § 303(d) List. 40 C.F.R. § 130.7(b)(6)(i).

47. Alabama provided that methodology. *See Alabama's Water Quality Assessment and Listing Methodology* (January 1, 2018) ("Listing Methodology").[13]

48. "Alabama's assessment and listing methodology establishes a process, consistent with EPA's guidance, to assess the status of surface waters in Alabama relative to the designated uses assigned to each waterbody" and "is intended to establish a rational and consistent process for reporting the status of Alabama's surface waters relative to their designated uses." *Id.* at 6. "It is the intent of the methodology to ensure that an adequate number of samples are available for use in the assessment process. Id. at 60. "When a state has by rulemaking adopted a methodology as part of its approved water quality standards and the water quality standards are applicable for CWA purposes, 40 CFR § 131.21, EPA will apply the approved methodology as it reviews the state's submission in order to determine

[13] http://www.adem.alabama.gov/programs/water/wquality/2018WAM.pdf.

whether to approve or disapprove the section 303(d) list." *EPA's Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act* ("EPA 2006 IR Guidance") at 29 (emphasis added.).[14]

49. Big Yellow Creek is classified for Swimming and Fish & Wildlife use. Ala. Admin. Code r. 335-6-11-.02.

50. In order to place waters categorized as Swimming or Fish & Wildlife on the State's § 303(d) List, Alabama is required to evaluate a minimum of eight water samples. *Listing Methodology* at 26, 36.

51. In order to remove these waters from the State's § 303(d) List, Alabama must also evaluate a minimum of eight water samples. *Listing Methodology* at 61 (Table 18).

52. Despite establishing a prescribed minimum number of samples in the Listing Methodology, the State of Alabama supplied only seven water chemistry samples as its basis to delist Big Yellow Creek for lead. *Big Yellow Creek Delisting Decision* at 10. In its delisting decision, the state supplied no explanation or rationale for deviating from the established sampling methodology that is required to develop the list. *See* 40 C.F.R. § 130.7(b)(6); *ADEM's Response* at 10.

[14] https://www.epa.gov/sites/production/files/2015-10/documents/2006irg-report.pdf.

53. On September 17, 2018, EPA generically approved Alabama's 2018 § 303(d) List as submitted, including the delisting of Big Yellow Creek in violation of ADEM's Listing Methodology. EPA's *Approval of the Alabama Department of Environmental Management 2018 §303(d) List Decision Document* at 18.

VI. CLAIM FOR RELIEF

EPA's Approval of Alabama's Delisting of Waters from the 2018 § 303(d) List Contravenes the CWA and is Actionable under the APA.

54. Riverkeeper hereby incorporates all preceding paragraphs, as if repeated verbatim herein.

55. Alabama's 2018 § 303(d) List as approved by EPA did not include all WQLSs as required by the Clean Water Act's § 303(d). The State removed waterbodies from the § 303(d) List that had previously been determined not to be meeting water quality standards, without the required supporting evidence that they now meet standards.

56. "Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop" its § 303(d) list. 40 C.F.R. § 130.10(d)(6); 40 CFR § 130.7(b)(5). "Each state shall provide documentation to the Regional Administrator to support the state's determination to list or not to list waters." 40 CFR § 130.10(d)(7). In approving Alabama's 2018 § 303(d) List, EPA did not comply with § 130.10(d)(6) and § 130.7(b)(5) because it accepted

Alabama's decision to delist waters in instances where the state failed to supply "good cause." 40 C.F.R. § 130.7(b)(6)(iv). EPA did not have adequate evidence that these waters are now meeting water quality standards.

57. Alabama did not submit and EPA did not review all existing and readily available water quality data to delist Segment #1 and Segment #2 of Lost Creek. Additional sample measurements of total dissolved solids for these segments (from LOSW-2 and LOSW-4), when reviewed with habitat assessments and bio-assessment results, demonstrate that Segment #1 and Segment #2 of Lost Creek remain impaired for siltation. Alabama also failed to justify why the metric of total dissolved solids was no longer appropriate to measure impairment and EPA accepted that decision without challenge.

58. EPA lacked evidence to approve the delisting of Big Yellow Creek because Alabama did not demonstrate "good cause." The state failed to submit the minimum number of sample results (eight) required by the ADEM Listing Methodology to delist a waterbody, nor did Alabama address or support this deviation. *ADEM's Response* at 10. In making its decision to approve or disapprove Alabama's 2018 Draft § 303(d) List, EPA is supposed to apply the state's approved listing methodology, yet EPA did not. EPA 2006 IR Guidance at 29.

59. EPA guidance describes categories where a water body may be removed from a state's 303(d) list without the development of a TMDL. Two are relevant here: 1) if evidence shows it is meeting all applicable water quality standards; or 2) if the original basis for delisting is determined to be inaccurate. EPA 2006 IR Guidance at 58.[15] Absent one of these appropriately documented reasons, EPA may not approve a state's request to delist an impaired waterbody.

60. EPA approved delisting two segments of Lost Creek on the 2018 § 303(d) list despite the fact that the Alabama's water quality monitoring for total dissolved solids during the relevant time period explicitly demonstrates that these waters continue to be impaired for siltation.

61. EPA approved the delisting of Big Yellow Creek even though Alabama failed to follow its own Listing Methodology to evaluate and submit the minimum number of eight water quality samples required to delist a waterbody and even though EPA is supposed to apply that Listing Methodology in deciding whether to approve Alabama's decisions to list or delist waterbodies.

62. EPA failed its duty to require Alabama to provide (and adhere to) an articulated methodology for delisting waterbodies and to provide a defensible rationale for the state's decision not to use existing data in making those determinations. 40 C.F.R. § 130.10(d)(7). EPA similarly failed its duty to require

[15] https://www.epa.gov/sites/production/files/2015-10/documents/2006irg-report.pdf.

adequate documentation to support Alabama's determination not to list waters described herein. *Id.*

63. Based on the above, EPA's approval of Alabama's 2018 § 303(d) list and its approval of the delisting or removal of waters from that list are arbitrary and capricious, an abuse of discretion and otherwise not in accordance with law, contrary to the APA, 5 U.S.C. § 706(2)(A). Further, EPA's failure to disapprove the 2018 § 303(d) list constitutes agency action unlawfully withheld or unreasonably delayed, in contravention of the APA, 5 U.S.C. § 706(1).

VII. PRAYER FOR RELIEF

WHEREFORE, Riverkeeper prays for relief as follows:

64. That the court issue a declaratory judgment that:

a) Defendants are in violation of the Clean Water Act and Administrative Procedure Act as alleged herein and that the State of Alabama's 2018 § 303(d) list is void and of no effect;

b) that EPA's approval of the state's 2018 § 303(d) list was arbitrary and capricious, an abuse of discretion and otherwise not in accordance with law, in violation of the APA, 5 U.S.C. § 706(2)(A);

c) that EPA's approval of Alabama's delisting and removal of waters from the 2018 § 303(d) list as described in this Complaint was arbitrary and

capricious, an abuse of discretion and otherwise not in accordance with law, in violation of the APA, 5 U.S.C. § 706(2)(A);

d) that EPA's failure to disapprove Alabama's 2018 § 303(d) list constitutes agency action unlawfully withheld or unreasonably delayed, in violation of the APA, 5 U.S.C. § 706(2)(A).

65. That the Court set aside the EPA approval of the 2018 § 303(d) List and remand the list to EPA with instructions to disapprove the list and establish its own list within 60 days of the disapproval, this list to include the waters and pollutant combinations identified in this Complaint as wrongfully omitted from Alabama's 2018 § 303(d) list.

66. For all of Riverkeeper's costs, expenses and reasonable attorney fees as authorized by 28 U.S.C. § 2412;

67. For any and all other relief that the court deems just and proper.

Respectfully submitted this 27th day of February, 2019.

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EXHIBIT 1

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March 13, 2018

Joseph Roy
Water Division
Alabama Department of Environmental Management
P. O. Box 301463
Montgomery, AL 36130-1463

Via electronic mail only to jtr@adem.state.al.us.

Re: Alabama's Draft 2018 § 303(d) List of Impaired Waters

Dear Mr. Roy:

Thank you for the opportunity to provide comments on Alabama's Draft 2018 Section 303(d) List ("2018 Draft List") submitted by the Alabama Department of Environmental Management ("ADEM'). We write on behalf of Black Warrior Riverkeeper ("Riverkeeper"), a nonprofit organization dedicated to protecting and restoring the Black Warrior River and its tributaries.

The 2018 Draft List identifies a number of proposed actions that directly affect the Black Warrior River basin.

- ADEM has added the following streams to the 2018 Draft List: Slab Creek (Pathogens/E. coli); Blackburn Fork (Inland Lake) (Mercury); Fivemile Creek (Pathogens/E. coli); Daniel Creek (Pathogens/E. coli); Mill Creek (Pathogens/E. coli); Elliotts Creek (Pathogens/E. coli); Carthage Branch (Pathogens/E. coli); and Big Prairie Creek (Pathogens/E. coli).
- ADEM proposes to delist eight waterbodies in the 2018 Draft List: Lost Creek (AL03160109-0405-103) (Siltation/habitat alteration); Lost Creek (AL03160109-0405-104) (Siltation/habitat alteration); Locust Fork (AL03160111-0404-102) (Siltation/habitat alteration); Locust Fork (AL03160111-0308-102) (Siltation/habitat alteration); Locust Fork (AL03160111-0305-102) (Siltation/habitat alteration); Locust Fork (AL03160111-0208-101) (Siltation/habitat alteration); Newfound Creek (Siltation/habitat alteration); and Big Yellow Creek (Metals/Lead).
- EPA has approved the Department's proposed total maximum daily load ("TMDL") for the following waterbodies: Black Branch (Aluminum and pH); Locust Fork (Bankhead

Lake) (AL03160111-0413-101) Nutrients); Locust Fork (Bankhead Lake) (AL03160111-0413-112) (Nutrients); Locust Fork (AL03160111-0404-102) (Nutrients); Locust Fork (AL03160111-0308-102) (Nutrients); Locust Fork (AL03160111-0305-102) (Nutrients); and Village Creek (Nutrients).

- The priority ranking for development of a TMDL on certain waterbodies in the Black Warrior watershed has been changed: Mulberry Fork (AL03160109-0203-102) (Siltation/habitat alteration) from Medium to Low; Mulberry Fork (AL03160109-0109-102) (Siltation/habitat alteration) from Medium to Low; Baker Creek (Siltation/habitat alteration) from Medium to Low; and Black Creek (pH) from Medium to High.

Big Prairie Creek

We were not surprised by the inclusion of Big Prairie Creek for pathogens/E. coli in the 2018 Draft List. This popular recreation area is downstream of the catastrophe that is Uniontown's chronically failing sewage treatment lagoon. As long as the Department's enforcement remains ineffective, the ongoing pollution from the lagoon and operations like Southeastern Cheese will continue to contribute to this impairment.

ADEM's Proposed Delisting Decisions in the Black Warrior Basin

ADEM proposes to delist seven stream segments in the Black Warrior basin that are impaired for siltation (habitat alteration) and one for metals (lead). Rather than carefully amass and consider statistically significant and scientifically sound evidence from different years and months, ADEM instead relies upon inconsistent methodology and limited data to make these decisions.

ADEM's partial reliance upon Total Suspended Solids ("TSS") and turbidity data as a proxy for siltation is misguided. Because siltation (habitat alteration) is more accurately defined by the deposition of sediment or silt on stream bottoms, rather than instream water quality, ADEM should be more concerned with sediment deposition over time, especially that resulting from runoff during storm events. Instream data for TSS/turbidity is only probative if it is collected immediately after, or during, a major precipitation event while the sediments being washed from surrounding areas are still suspended in the water column and before the solids have had a chance to settle to the stream bottom. There is no evidence that ADEM's sampling was conducted in this manner.

We similarly question the calculation of the appropriate benchmark by which turbidity is analyzed; characterizing the eco-reference measure as "background" and adding 50 NTUs to gauge whether a waterbody is meeting water quality standards in no way assesses the actual amount of sedimentation occurring in the stream. Again, analyzing the data in this manner would only be appropriate during a precipitation event as elevated turbidity is generally a temporary condition associated with erosion and runoff created by rainfall intensity and increased stream velocities.

While ADEM has included habitat and macroinvertebrate assessment data in its delisting decisions, its use of this data is fundamentally flawed. For each of these decisions, ADEM relies upon singular evaluations of habitat and macroinvertebrate communities. Notably, the most important aspects of the habitat assessment are based upon observational evidence rather than hard data, meaning that multiple studies are even more important. As is the case for each of these stream segments, when only a single habitat assessment is performed, the assessment results are unreliable at best, and highly questionable at worst. If the Department were seeking to publish the delisting decisions in a peer-reviewed scientific journal, the analysis would not be accepted for publication with such limited data.

The limited data is not conclusive enough to support a delisting decision. ADEM has also failed to provide prior assessments at these locations to verify whether or not conditions are better now than they were at the time of listing, and whether or not conditions are improving over time. For most of the segments proposed for delisting for siltation (habitat alteration), ADEM relies on data actually diagnosing impairment as "evidence" that the streams are no longer impaired. For additional details on each of these stream delistings, please see the discussion below.

Lost Creek

Even though ADEM proposes to delist two different impaired segments of Lost Creek, the Department has drafted only one delisting decision. This approach not only complicates the analysis, but also serves to camouflage the paucity of data underlying the delisting decisions. Because there is no numeric criterion for siltation, ADEM primarily relies on three criteria to delist the two segments: water quality sampling, together with one habitat assessment and one macroinvertebrate study for each segment.

As acknowledged by ADEM in the delisting decision, "[t]he State of Alabama currently has no numeric criteria for siltation; therefore, narrative criteria must be used to assess the siltation impairment." *Lost Creek Delisting Decision* at 3. "Historically, in the absence of established numeric criteria, ADEM and/or EPA would use available data and information coupled with best professional judgement to determine overall use support for a given waterbody." *Id.* "For the siltation (habitat alteration) impairment status, relative biological health and habitat suitability will be evaluated along with an assessment of the instream total suspended solids (TSS) and turbidity data." *Id.*

To complete this "evaluation," ADEM relies primarily upon the *2012 & 2013 Lost Creek (Hwy 69) Monitoring Study* (Segment 1) and the *2012 Lost Creek (Hwy 78) Monitoring Study* (Segment 2) .[1] However, at p. 2 in both of these summaries, *ADEM actually concludes that "[t]he elevated level of total dissolved solids support the continued inclusion of Lost Creek" on the CWA 303(d) list for*

[1] The 2012 monitoring summaries that ADEM cites in the Lost Creek delisting decision are found at http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LostCk-ALHwy69.pdf and http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LostCk-ALHwy118.pdf.

siltation. (Emphasis added.) Yet now some five year later ADEM concludes the exact opposite, with no additional data, and proposes to delist these streams. In 2012 and 2013, the Department agreed with us that the data does not justify delisting the stream; this reversal makes a travesty of the delisting decision for Lost Creek.

ADEM identifies Lost Creek (AL03160109-0405-103) as "Segment 1" and Lost Creek (AL03160109-0405-104) as "Segment 2." *Id* at 6. To support a delisting decision, the data cited must have been collected within the last six years. *See ADEM Listing Methodology* at 36.[2] ADEM's 2012 and 2013 data is near the outside of that six-year window. *Lost Creek Delisting Decision* at IIII.[3] For Segment 1, ADEM relies upon five 2012 samples taken at station LOSW-5 and eight 2013 samples taken at LOSW-4. Again, that data was cited in the *2012 Lost Creek (Hwy 69) Monitoring Study* in which ADEM concludes that the segment should still be on the § 303(d) List. For Segment 2, ADEM took eight samples taken at LOSW-1 and nine at LOSW-2. *Id.*

The October 23, 2012 habitat assessment for Segment 1 scored the segment at 64 points, which is only 5 points higher than a "marginal" rating. *Id.* at 7. For the macroinvertebrate assessment, the area surveyed scored "Fair" at 41, which is only three points away from "Poor." *Id.* at 8. For the October 17, 2012 habitat assessment for Segment 2, the area surveyed scored 61 points, which is only three points higher than a "marginal" rating. *Id.* at 9. For the macroinvertebrate assessment, the area surveyed scored "Fair" at 51, which is an anomalous result given that Segment 1 had a much higher habitat score but much lower macroinvertebrate score. *Id.* at 10. So while ADEM can argue that Lost Creek technically meets habitat and macroinvertebrate requirements at each segment on one single 2012 date, the scores do not indicate a healthy stream nor can a single study paint a reliable picture of the condition of Lost Creek. What does present a reliable and all too typical picture of Lost Creek's condition: the ADEM photo taken looking downstream at LOSW-4. *Id.* at VIII. This shot captures a large accumulation of sediment instream on the right and shows the sediment covered rocks below the water's surface.

The continuing accumulation of sediment is why overall habitat quality for Segment 2 was rated as sub-optimal due to inadequate habitat quality and bank stability. *2012 Lost Creek (Hwy 69) Monitoring Study* at 1. "Water chemistry analyses suggested the *elevated total dissolved solids*, specific conductance, and alkalinity concentrations may be impacting macroinvertebrate communities." *Id.* at 2. (Emphasis added.) Based upon consideration of all these factors, ADEM's best professional judgment in 2012 was that the elevated level of total dissolved solids supported the continued inclusion of Segment 2 of Lost Creek on the CWA 303(d) list for siltation. *Id.* at 2. Moreover, "[w]ater chemistry analyses suggested the elevated total dissolved solids, specific conductance, and alkalinity

[2] http://www.adem.alabama.gov/programs/water/wquality/2018WAM.pdf

[3] http://www.adem.alabama.gov/programs/water/delistings/DraftLostCreekSiltationDelistingReportOctober2017.pdf

concentrations may be impacting macroinvertebrate communities." *Id.* With no additional sampling or studies since, ADEM now concludes the opposite in 2018 and proposes to delist the stream.

The 2012 conclusions for Segment 1 mirror those for Segment 2. "Overall habitat quality was rated as sub-optimal due to inadequate habitat quality and bank stability." *2012 Lost Creek (Hwy 78) Monitoring Study* at 1. The median value of total dissolved solids higher than expected when compared to reference reaches in ecoregion 68. *Id.* at 2. Water chemistry analyses suggested the elevated arsenic, manganese, *total dissolved solids*, specific conductance, hardness and alkalinity concentrations may be impacting macroinvertebrate communities. *Id.* (Emphasis added.) "The elevated level of total dissolved solids supports the continued inclusion of Lost Creek [Segment 2] on the CWA 303(d) list for siltation." *Id.*.

Finally, in addition to the fact that TSS and turbidity are poor proxies for siltation, relying exclusively upon older data fails to reflect the sediment loading permitted during the interim. In addition to abandoned prelaw mine sites, at least six active surface coal mines were in operation on Lost Creek or its tributaries since ADEM's data was gathered: Cedrum 8750 Mine (AL0026981); Choctaw Mine (AL0072184); Crescent Valley Mine (AL0078751); Carbon Hill Mine (AL0079553); Sparks Branch Mine (AL0078972) and Reeses Branch Mine (AL00775931). All of these NPDES permits authorized the contribution of significant sediment to Lost Creek or its tributaries; for example, Cedrum 870 Mine's NPDES permit contains a TSS loading of 22.99 tons per year. Reeses Branch Mine has been the location of serial bank slumps into Lost Creek caused by poor mining practices:


5/10/16


2/27/17


2/27/17

According to ADEM's delisting decision, "[b]oth segments of Lost Creek were originally identified by the State of Alabama as impaired for siltation (habitat alteration) by unknown sources, but the source of impairment has since been attributed to abandoned surface mining operations" so the continuing contributions of these sites when aggregated with the permitting of additional surface mines is critical to consider. So a limited number of samples taken without reflecting additional sediment loading from these and other operations do not accurately portray Lost Creek's condition today.

The Department must withdraw this proposed delisting and return to its 2012 judgment that the elevated level of total dissolved solids support the continued inclusion of Lost Creek on the Section 303(d) List. What makes the proposed removal of Lost Creek from the protections of the Section 303(d)

List and the addition of more sediment to these waters even more disturbing is the known presence of the threatened flattened musk turtle and the endangered Black Warrior waterdog in Lost Creek. These creatures are found in the Black Warrior basin and nowhere else in the world. Their preferred habitat is freshwater, rock-bottomed streams. Siltation is the biggest threat to their recovery and survival. Historically, strip mining for coal and industrial pollution have severely impacted the turtle and the waterdog. As far back as 1981, U.S. Fish and Wildlife Service contracted with Dr. Robert H. Mount, Auburn University, to determine the status of the flattened musk turtle. In his report, Dr. Mount concluded that the single greatest threat to the turtle is siltation, and he placed the major blame for siltation on surface coal mining. *See* Ernst, Cox and Marion, *The Distribution and Status of the Flattened Musk Turtle, Tulane Studies in Zoology and Botany, Volume 27, Number 1* at p. 2. The removal of these two Lost Creek segments from the Section 303(d) List and ADEM's failure to arrest the siltation of the stream with a TMDL could contribute to or accelerate the extirpation of the flattened musk turtle and the Black Warrior waterdog in Lost Creek.

Locust Fork

Just as the Department has combined the delisting of two segments of Lost Creek, ADEM has attempted to simultaneously evaluate four segments of the Locust Fork to obscure the lack of information used to "justify" the removal of 303(d) and subsequent TMDL protections for one of Alabama's most beautiful and biodiverse rivers. At least with Lost Creek, ADEM evaluated each segment independently while combining the data into a single delisting document. For the Locust Fork, unfortunately, ADEM has chosen to present the limited data for each sampling station as if it is applicable to all four 303(d) listed segments, further confusing the issue and hiding the lack of data underlying the flawed delisting decision.

Because there is no numeric criterion for siltation, ADEM again relies on three criteria to delist the four segments: water quality sampling, together with one habitat assessment and one macroinvertebrate study for each segment. ADEM notes that its decision, "to delist the Locust Fork for siltation was authorized under ADEM's Water Quality Standards Program, which employs both numeric and narrative criteria to ensure adequate protection of designated uses for surface waters of the State." *Locust Fork Delisting Decision* at 11. "Historically, in the absence of established numeric criteria, ADEM and/or EPA would use available data and information coupled with best professional judgement to determine overall use support for a given waterbody." *Id* at 12. "For the siltation (habitat alteration) impairment status, relative biological health and habitat suitability will be evaluated along with an assessment of the instream total suspended solids (TSS) and turbidity data." *Id*.

To support a delisting decision, the data cited must have been collected within the last six years. *See ADEM Listing Methodology* at 36. ADEM's data is at the extreme outside of that six-year window with all of the habitat assessments and macroinvertebrate assessments conducted on June 20, 2012, nearly 5 years and nine months ago. *Locust Fork Delisting Decision* at 15-16. ADEM could and should

have verified the results from the 2012 habitat assessments and macroinvertebrate assessments several times in the intervening years to produce a statistically significant and reliable data set.

If ADEM is relying primarily on habitat assessment and macroinvertebrate studies, they need more than one set for each of the four segments the Department proposes to delist. Significantly, the results of the habitat assessments and macroinvertebrate studies that ADEM relies upon actually suggest that at least the three downstream segments continue to be badly compromised (while the data for the other (upstream) segment should still be corroborated through additional data collection). For instance, of the macroinvertebrate assessments performed in each of the four impaired segments, all four stations rated as "Fair" for community health, the second lowest category. Of those four "Fair" ratings, only the upstream assessment at LFKB-1 was well within the range for a "Fair" rating. Macroinvertebrate health at LFKB-2 rated at 14, near the bottom of the range for a "Fair" rating, while LFKB-8 and LFKJ-3 received the lowest score possible before dropping into the "Poor" rating. This is hardly an indication of healthy macroinvertebrate communities or a vibrant river. On the contrary, these results indicate that sediment and/or water quality are having severely negative impacts on habitat. Similarly, with regard to habitat assessment results, LFKB-2 and LFKB-8 both rated as "sub-optimal" habitat with LFKB-8 just 3 points above a "marginal" rating. LFKJ-3 rated as "marginal" for habitat quality. Again, these results indicate that the Locust Fork is still impaired and should not be removed from the 303(d) List.

Furthermore, the data from each of the four segments demonstrates a clear trend toward diminishing water and habitat quality as the river flows downstream, with lower scores for habitat assessments and macroinvertebrate community assessments at downstream stations, and higher concentrations of TSS and more turbid water at downstream stations. *See Locust Fork Delisting Decision* at 15-19. This data clearly indicates that there is a cumulative negative impact from upstream sources of sediment that are taking a toll on downstream habitat quality. The fact that sediment is accumulating downstream indicates that the sediment loading in the Locust Fork is exceeding the river's capacity to assimilate and/or flush the sediment downstream. As such, it is evident that impaired conditions continue to exist in the Locust Fork. This documented impairment well illustrates the need for continued Section 303(d) protection: ADEM must develop a TMDL for sediment/siltation in the Locust Fork, and not delist the river.

With respect to the 2012 monitoring data that ADEM cites in its delisting decision, the data continues to support impairment.[4] For example, in the *2012 Locust Fork (Hwy 231) Monitoring Study* the Department acknowledges that the median concentration of total dissolved solids was higher than expected for streams in the Southern Table Plateaus ecoregion and that total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68d. *Id.* at 3-

[4] The 2012 monitoring summaries that ADEM cites in the Locust Fork delisting decision are found at http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LocustFk-ALHwy231.pdf; http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LocustFk-VaughnsBridge.pdf; http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LocustFk-JeffersonCoRd77.pdf; and http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012LocustFk-Warrior-KimberlyRd.pdf

4. Similarly, the *2012 Locust Fork (Vaughn's Bridge) Monitoring Study* observed that not only was overall habitat quality sub-optimal, but that bank and vegetative stability was marginal, bank erosion was visible and riffle frequency was poor. *Id.* at 2. The summary states that the median concentration of total dissolved solids was higher than expected for streams in the Dissected Plateaus ecoregion. *Id.* Sand and silt deposition could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities; efforts to reintroduce aquatic snails and mussels in this segment were characterized as "variable." *Id.* at 4. Biological surveys indicated moderate changes in the community structures due to the replacement of sensitive taxa by more tolerant taxa. *Id*. Continued monitoring of the reach was recommended, as water chemistry analyses showed that concentrations of total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68e. *Id.*

For the *2012 Locust Fork (Road 77) Monitoring Study*, overall habitat quality was rated as marginal for supporting biological communities due to sediment deposition and bank failure in the reach. *Id.* at 2. The metric results indicated the macroinvertebrate community to be in fair condition with a score of 12, *id.* at 3 – the lowest possible score a survey can yield before being characterized as "Poor." Median concentrations of total dissolved solids were found to be higher than expected for streams in ecoregion 68. *Id.* A Geological Survey of Alabama fish assessment was scored at 34 --- one point away from "Poor." *Id.* Median concentrations of total dissolved were higher than expected for streams in ecoregion 68. *Id.* Overall habitat quality was categorized as marginal for supporting macroinvertebrate communities, due to sedimentation and bank erosion in the reach. Sedimentation issues could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities. *Id.* at 5. Concentrations of total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68. *Id.*

The Department's *2012 Locust Fork (Warrior-Kimberley Road) Monitoring Study* is just as bad. Overall habitat quality was rated as sub-optimal for supporting biological communities, scoring only two points away from a "marginal" rating. *Id. at 3*. Bank and vegetative stability was marginal in the reach due to signs of bank erosion and sedimentation. *Id.* at 2. The metric results indicated the macroinvertebrate community to be in fair condition, scoring a 12, which is the lowest possible score for a "Fair" assessment. *Id.* at 3. Benthic substrate at the sampling station was mostly sand, which provides unstable habitat for macroinvertebrates. Sediment deposition could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities. *Id.* at 4.

The breakdown of the data outlined above, which documents the continuing impairment of the Locust Fork, requires the Department to withdraw this proposed delisting. What makes the proposed removal of the Locust Fork from the protections of the Section 303(d) List and the addition of more sediment to these waters even more disturbing is the known presence of, historical presence of, viable habitat for, and/or designated critical habitat for numerous rare and/or endangered aquatic species, many of which are included in the unofficial (and perhaps not comprehensive) list: "Locust Fork Rare Aquatic Species." *See* Exhibit 1. ADEM's failure to implement a TMDL for the Locust Fork will exacerbate

conditions in the river, leading to adverse effects on the Alabama State Wildlife Action Plan and Endangered Species Act status of these species, or even lead to the extirpation of these and other species in the Locust Fork. Sediment deposition is universally acknowledged as one of the biggest threats to the habitat, survival, and recovery of these rare species.

Newfound Creek

Much like the Department's decision to delist Lost Creek and the Locust Fork, ADEM should not delist Newfound Creek because the Department has not collected the data to justify such a decision. Again, ADEM has employed just one macroinvertebrate assessment, and one habitat assessment at a single station in the impaired segment as justification for the delisting decision. Once again, all the data for the delisting decision, including narrative criteria assessments and water quality data, was collected in 2012, on the outer limits of ADEM's six-year window. That data should only be used to supplement more recent data, which ADEM fails to supply.

The *2012 Newfound Creek Monitoring Study* shows that ADEM failed to follow its own cited guidance in proposing to delist Newfound Creek.[5] "Since 1998, Newfound Creek, from Five Mile Creek to impoundment (approximately 2.76 miles), has been on Alabama's Clean Water Act (CWA) §303 (d) list of impaired waters for *only partially meeting* its Fish and Wildlife (F&W) water use classification." *Id.* at 1. (Emphasis added.) According to ADEM's delisting decision, Newfound Creek is still only partially meeting the F&W designation, so the Department cannot delist the stream. Listing Decision at 5.

For the purpose of determining use support for siltation, ADEM defines "Partial Supporting" where "Macroinvertebrates are determined to be Fair (Moderately Impaired) and Chemical/Physical/Field Data indicate impairment." *Id.* Bioassessment results indicate the macroinvertebrate community in Newfound Creek was in "Fair" condition. *2012 Newfound Creek Monitoring Study* at 2. That study also indicates continued impairment: median concentrations of total dissolved solids "were higher than expected based on the 90th percentile of all reference data collected in the ecoregion 68f." *Id.* According to ADEM's on guidance cited in the delisting decision, where macroinvertebrates are determined to be "Fair" and the field data continues to document impairment, ADEM must find that the waterbody only partially supports its F & W use. ADEM has cited no data to support removing Newfound Creek from the § 303(d) List: just as when the creek was originally listed, it still only partially supports a F&W use.

[5] The 2012 monitoring summary that ADEM cites in the Newfound Creek delisting decision is found at http://adem.alabama.gov/programs/water/wqsurvey/table/2012/2012NewfoundCk.pdf.

ADEM's fervor to delist impaired streams, rather than develop TMDLs to protect water quality for all who depend upon it is extremely disappointing. The Department must withdraw this proposed delisting.

Big Yellow Creek

"For waters originally placed in Category 5 due to a specific toxic pollutant or specific toxic pollutants, there should be no violations of the appropriate criteria in a minimum of eight samples collected over a three-year period before the cause of impairment is removed …." *See ADEM's 2018 Draft 303(d) List Methodology* at p. 64. To support delisting Big Yellow Creek for lead, at a minimum the Department must have collected a minimum of eight samples over a three year period; they did not.

Just like in 2012 when ADEM proposed to delist Big Yellow Creek for chromium, a review of the delisting decision reveals that the Department collected only seven relevant samples over a period of seven months, notably excluding the winter months during which discharges from potential sources of lead in the watershed such as coal mines and coalbed methane wells are likely to be more prevalent. *Big Yellow Creek Draft Delisting Decision* at 14.[6] This is neither an adequate number of samples nor an adequate range of time for sampling to support a delisting decision, according to the minimum requirements of the Department's own methodology.

In order to meet the requirements of 40 C.F.R. § 130.7(b)(6)(iv), ADEM must do more than just offer "more recent" data. ADEM must offer solid, persuasive and relevant data to demonstrate a "detailed rationale" for de-listing Big Yellow Creek. ADEM may have offered more "recent" data but this data is not adequate to meet the requirements of either 40 C.F.R. § 130.7(b)(6)(.iv) or ADEM's own listing methodology. ADEM has only supplied an inadequate number of samples taken over an artificially limited period of time, which do not support ADEM's contention that delisting is warranted.

ADEM has also predicated the decision to delist Big Yellow Creek on the false assumption that there are "no active continuous point sources with . . . NPDES permits within the listed portion of the Big Yellow Creek watershed." *Big Yellow Creek Draft Delisting Decision* at 9. The decision then proceeds to identify Warrior Met Coal BCE, LLC (Blue Creek Energy No. 1 Mine) as non-continuous point source within the watershed. Based upon information and belief, ADEM has incorrectly asserted that Blue Creek Energy No. 1 Mine will not discharge continuously. The coal mine is an underground mine, meaning that when it is fully operational, the underground works will need to be pumped free of intruding groundwater, leading to the necessity of continuously discharging point sources. While the most recent available inspection report available in eFile indicates that the mine is currently inactive, the facility's DMRs indicate that DSN010 already discharges on a nearly continuous basis, reporting only one month with no discharge in 2017.

[6] http://www.adem.alabama.gov/programs/water/delistings/DraftBigYellowCreekMetalsPbDelistingJanuary2018.pdf

Because ADEM has failed to adhere to its own methodology to collect an adequate number of samples, and because ADEM has based its decision on incorrect assumptions about the potential contributions of point sources , the Department must withdraw this proposed delisting.

Need to Develop Numeric Criteria for Nutrients

ADEM relies upon use classifications, numeric and narrative criteria, and anti-degradation policy as "the three legs of a stool which work together to provide water quality protection" for surface waters. *ADEM's Draft 2018 Water Quality Assessment and Listing Methodology* at p. 7. This being the case, we ask (again) why hasn't the Department developed numeric nutrient criteria for the State's wadeable streams? At a time when ADEM has fewer resources than ever, the development and use of numeric criteria would obviate the need for the Department's staff to make continual, time-consuming "best professional judgments" about whether a stream is impaired for nutrients. Developing sound, numeric criteria for nutrients will not only help evaluate the health of Alabama's streams for impaired status, but also will be extremely useful to the Department in making permitting decisions that will better protect Alabama's surface waters. Implementation of these numeric criteria, if properly developed, will go a long way toward solving numerous water quality issues.

Such criteria will alleviate the organic enrichment that causes algae blooms, making Alabama's surface waters safer for wading, swimming, and drinking water. Reduction of algae blooms will also have the effect of improving dissolved oxygen concentrations making our waters more conducive to the survival of fish and other aquatic organisms. Developing numeric nutrient criteria is a relatively simple short-term investment of time and money that will pay off with long-term benefits, making both the permitting process and the evaluation of stream impairment cheaper and easier for the foreseeable future. We recommend that ADEM make every effort to develop numeric nutrient criteria as soon as possible.

Development of Statewide Mercury TMDL

In 2016, ADEM indicated it was in the process of developing a Statewide Mercury TMDL, so that it would not develop individual TMDLs for waters impaired by mercury. *Alabama's Draft 2016 §303(d) List Fact Sheet* at 23. However, there is no mention of this important TMDL in the 2018 Draft List. Is the Department still prioritizing this TMDL? If so, when does ADEM anticipate its release and implementation? If not, why not?

Conclusion

We have been advocating for the streams of the Black Warrior Basin during the § 303(d) List public comment process for years. If the Department proposes to delist a stream, we ask that you follow the prescribed scientific process and furnish a detailed, supported rationale as to why. If the

Department's data actually supported delisting these waterbodies in 2012, we fail to understand why ADEM did not propose to delist them during the 2014 or 2016 Section 303(d) cycle. To propose them now invites skepticism.

With respect to TMDL development, while we know that ADEM is not required to submit TMDLs during a certain prescribed period of time, to date the pace has been far too slow. If a lack of staffing and funding plays a part, then the Department needs to tell the public what it is doing to get the necessary resources. The impaired streams of the Black Warrior cannot wait any longer for the promised protections of the § 303(d) List or TMDL development. The health and well-being of Alabama's citizens hang in the balance while ADEM continues its delay. The development of a prioritization system for TMDLs is only effective if ADEM actually uses this framework to develop and implement these TMDLs.

Thank you for your consideration of our comments. Please do not hesitate to contact us if you have any questions or of you require any additional information. We look forward to receiving the Department's response to our comments, any comments by the EPA and to receiving notice of the Department's final Section 303(d) List.

For the River,

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Riverkeeper

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cc: Glenda Dean, Chief
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EPA Region 4

EXHIBIT 1

Aquatic Species of Conservation Interest ~ Locust Fork of the Black Warrior River

Group & Species	Common Name	Global & State Rank (NatureServe/ALNHP)	Alabama State Wildlife Action Plan Priority	Federal Status (US Endangered Species Act)
REPTILES				
Macrochelys temminckii	Alligator snapping turtle	G3G4 S3	P3	--
Sternotherus depressus	Flattened musk turtle	G2 S2	P1	Threatened
AMPHIBIANS				
Necturus alabamensis	Black Warrior waterdog	G2 S2	P1	Endangered
FISH				
Cottus carolinae	Banded sculpin	G5 S5	P5	--
Cyprinella callistia	Alabama shiner	G5 S5	P5	--
Etheostoma bellator	Warrior darter	G2 S2	P2	--
Etheostoma douglasi	Tuskaloosa darter	G2 S2	--	--
Etheostoma nigripinne	Blackfin darter	G4 S4	P5	--
Etheostoma rupestre	Rock darter	G4 S4	P5	--
Etheostoma sp. cf. *bellator*	Locust Fork darter	*Undescribed*	P2	--
Moxostoma carinatum	River redhorse	G4 S4	P5	--
Notropis asperifrons	Burrhead shiner	G4 S4	P5	--
Notropis cahabae	Cahaba shiner	G2 S2	P1	Endangered
Percina brevicauda	Coal darter	G3 S2	P2	--
Phenacobius catostomus	Riffle minnow	G4 S4	P5	--
MUSSELS				
Elliptio arca	Alabama spike	G2G3Q S2	P1	--
Elliptio arctata	Delicate spike	G2G3Q S2	P2	--
Hamiota perovalis	Orangenacre mucket	G2 S2	P2	Threatened
Ligumia recta	Black sandshell	G4G5 S2	P2	--
Medionidus acutissimus	Alabama moccasinshell	G2 S2	P1	Threatened
Medionidus parvulus	Coosa moccasinshell	G1Q SX	P1	Endangered
Pleurobema decisum	Southern clubshell	G2 S2	P2	Endangered
Pleurobema furvum	Dark pigtoe	G1G2Q S1	P1	Endangered
Pleurobema perovatum	Ovate clubshell	G1 S1	P1	Endangered
Ptychobranchus greenii	Triangular kidneyshell	G1 S1	P1	Endangered
SNAILS				
Elimia comma	Hispid elimia	G2 S1	--	--
Elimia hydei	Gladiator elimia	G2 S2	--	--
Elimia melanoides	Black mudalia	G2Q S2	P2	Candidate
Fontigens nickliniana	Watercress snail	G5 S4	P1	--
Lioplax cyclostomaformis	Cylindrical lioplax	G1 S1	P1	Endangered
Leptoxis plicata	Plicate rocksnail	G1 S1	P1	Endangered

EXHIBIT 2

Excerpted Sampling Data for Total Dissolved Solids
Lost Creek LOSW-2 and LOSW-4[1]

LOSW-2
(Seg. #2)

Date	TDS (mg/L)
3/12/2013	266
4/9/2013	474
5/6/2013	280
6/11/2013	1014
7/17/2013	721
8/6/2013	707
9/9/2013	1085
10/9/2013	1268

Average **726 mg/L**
High **1268 mg/L**

LOSW-4
(Seg. #1)

Date	TDS (mg/L)
3/1/2013	140
4/9/2013	198
5/6/2013	148
6/11/2013	430
7/7/2013	268
8/6/2013	333
9/9/2013	516
10/9/2013	559

Average **324 mg/L**
High **559 mg/L**

[1] Data is taken directly from from EPA Water Quality Portals, found at https://www.waterqualitydata.us/portal/#countrycode=US&statecode=US%3A01&countycode=US%3A01%3A127&siteid=21AWIC-325&startDateLo=01-01-2012&startDateHi=01-01-2014&mimeType=xlsx. and https://www.waterqualitydata.us/portal/#countrycode=US&statecode=US%3A01&countycode=US%3A01%3A127&siteid=21AWIC-325&startDateLo=01-01-2012&startDateHi=01-01-2014&mimeType=xlsx.

EXHIBIT 3

LANCE R. LEFLEUR
DIRECTOR

ADEM

KAY IVEY
GOVERNOR

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April 2, 2018

VIA ELECTRONIC MAIL

Black Warrior Riverkeeper
Eva Dillard, Staff Attorney
712 37th Street South
Birmingham, AL 35222

RE: ADEM's Response to Public Comments on Alabama's Draft 2018 303(d) List

Dear Ms. Dillard:

The Alabama Department of Environmental Management appreciates your interest in protecting Alabama's water resources. As part of the public participation process, the Department has completed a review of all comments received on Alabama's Draft 2018 303(d) List that was placed on public notice for the period of February 11, 2018, through March 13, 2018. Subsequent to our review, the Department assembled all public comments received during the 30-day public notice period and is providing a specific response to each comment accordingly.

As part of our commitment to those interested individuals who provided comments, we have attached a summary of all public comments received and the Department's responses. In addition, Alabama's Draft 2018 303(d) List was submitted to the United States Environmental Protection Agency on April 2, 2018, and is currently undergoing their review.

If you have any questions, you may contact me at (334) 274-4250 (via email jhaslbauer@adem.alabama.gov), or Joseph Roy of my staff at (334) 270-5635 (via email jtr@adem.alabama.gov).

Sincerely,

Jennifer Haslbauer

Jennifer Haslbauer, Chief
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JMH/JTR/jes

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Response to Comments
Concerning Alabama's Draft 2018 §303(d) List

Alabama Department of Environmental Management
Water Quality Branch / Water Division
April 1, 2018

ADEM
Alabama Department of Environmental Management

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Table of Contents

Introduction

The public was invited to provide written comments on the Draft 2018 §303(d) List during the period February 11th through March 13th, 2018. The purpose of this responsiveness summary is to document the public comments received and provide a response to such comments in writing. Ten submittals with a varying number of comments for the Draft 2018 §303(d) List were received during the comment period. Comments that were received after the public notice period ended were not included in the responsiveness summary. Only comments that were received in a timely manner and relevant to Alabama's Draft 2018 303(d) List were addressed by the Department.

The Department received a number of other comments during the notice period that did not concern Alabama's Draft 2018 §303(d) List nor did they provide new information. Many of these comments expressed concerns with other programs and those will be provided to the appropriate program managers.

Comments submitted in response to the February 11, 2018 public notice for the Draft 2018 §303(d) List:

I. Black Warrior Riverkeeper Comments (03/13/2018):

Comment 1: We were not surprised by the inclusion of Big Prairie Creek for pathogens/E. coli in the 2018 Draft List. This popular recreation area is downstream of the catastrophe that is Uniontown's chronically failing sewage treatment lagoon. As long as the Department's enforcement remains ineffective, the ongoing pollution from the lagoon and operations like Southeastern Cheese will continue to contribute to this impairment.

Response 1: Comment noted.

Comment 2: ADEM proposes to delist seven stream segments in the Black Warrior basin that are impaired for siltation (habitat alteration) and one for metals (lead). Rather than carefully amass and consider statistically significant and scientifically sound evidence from different years and months, ADEM instead relies upon inconsistent methodology and limited data to make these decisions.

Response 2: The Department believes it has provided sufficient documentation that supports our findings that these waterbodies are not impaired. Also, the delisting documents were made available for public review and were submitted to EPA.

Comment 3: ADEM's partial reliance upon Total Suspended Solids ("TSS") and turbidity data as a proxy for siltation is misguided. Because siltation (habitat alteration) is more accurately defined by the deposition of sediment or silt on stream bottoms, rather than instream water quality, ADEM should be more concerned with sediment deposition over time, especially that resulting from runoff during storm events. Instream data for TSS/turbidity is only probative if it is collected immediately after, or during, a major precipitation event while the sediments being washed from surrounding areas are still suspended in the water column and before the solids have had a chance to settle to the stream bottom. There is no evidence that ADEM's sampling was conducted in this manner.

We similarly question the calculation of the appropriate benchmark by which turbidity is analyzed; characterizing the eco-reference measure as "background" and adding 50 NTUs to gauge whether a waterbody is meeting water quality standards in no way assesses the actual amount of sedimentation occurring in the stream. Again, analyzing the data in this manner would only be appropriate during a precipitation event as elevated turbidity is generally a temporary condition associated with erosion and runoff created by rainfall intensity and increased stream velocities.

Response 3: The Department believes that the available habitat and macroinvertebrate assessments, along with the instream water quality data, provide sufficient evidence that the referenced streams are not impaired. In addition, the data analysis was conducted in accordance with the Department's 2018 Water Quality Assessment and Listing Methodology.

Comment 4: While ADEM has included habitat and macroinvertebrate assessment data in its delisting decisions, its use of this data is fundamentally flawed. For each of these decisions, ADEM relies upon singular evaluations of habitat and macroinvertebrate communities. Notably, the most important aspects of the habitat assessment are based upon observational evidence rather than hard data, meaning that multiple studies are even more important. As is the case for each of these stream segments, when only a single habitat assessment is performed, the assessment results are unreliable at best, and highly questionable at worst. If the Department were seeking to publish the delisting decisions in a peer-reviewed scientific journal, the analysis would not be accepted for publication with such limited data.

Response 4: The Department believes that the available habitat and macroinvertebrate assessments, along with the instream water quality data, provide sufficient evidence that the referenced streams are not impaired. In addition, the data analysis was conducted in accordance with the Department's 2018 Water Quality Assessment and Listing Methodology.

Comment 5:

Lost Creek

Even though ADEM proposes to delist two different impaired segments of Lost Creek, the Department has drafted only one delisting decision. This approach not only complicates the analysis, but also serves to camouflage the paucity of data underlying the delisting decisions. Because there is no numeric criterion for siltation, ADEM primarily relies on three criteria to delist the two segments: water quality sampling, together with one habitat assessment and one macroinvertebrate study for each segment.

As acknowledged by ADEM in the delisting decision, "[t]he State of Alabama currently has no numeric criteria for siltation; therefore, narrative criteria must be used to assess the siltation impairment." Lost Creek Delisting Decision at 3. "Historically, in the absence of established numeric criteria, ADEM and/or EPA would use available data and information coupled with best professional judgement to determine overall use support for a given waterbody." Id. "For the siltation (habitat alteration) impairment status, relative biological health and habitat suitability will be evaluated along with an assessment of the instream total suspended solids (TSS) and turbidity data." Id.

To complete this "evaluation," ADEM relies primarily upon the 2012 & 2013 Lost Creek (Hwy 69) Monitoring Study (Segment 1) and the 2012 Lost Creek (Hwy 78) Monitoring Study (Segment 2) .1 However, at p. 2 in both of these summaries, ADEM actually concludes that "[t]he elevated level of total dissolved solids support the continued inclusion of Lost Creek" on the CWA 303(d) list for "Poor." Id. at 8. For the October 17, 2012 habitat assessment for Segment 2, the area surveyed scored 61 points, which is only three points higher than a "marginal" rating. Id. at 9. For the macroinvertebrate assessment, the area surveyed scored "Fair" at 51, which is an anomalous result given that Segment 1 had a much higher habitat score but much lower macroinvertebrate score. Id. at 10. So while ADEM can argue that Lost Creek technically meets habitat and macroinvertebrate requirements at each segment on one single 2012 date, the scores do not indicate a healthy stream nor can a single study paint a reliable picture of the condition of Lost Creek. What does present a reliable and all too typical picture of Lost Creek's condition: the ADEM photo taken looking downstream at LOSW-4. Id. at VIII. This shot captures a large accumulation of sediment instream on the right and shows the sediment covered rocks below the water's surface.

The continuing accumulation of sediment is why overall habitat quality for Segment 2 was rated as sub-optimal due to inadequate habitat quality and bank stability. 2012 Lost Creek (Hwy 69) Monitoring Study at 1. "Water chemistry analyses suggested the elevated total dissolved solids, specific conductance, and alkalinity concentrations may be impacting macroinvertebrate communities." Id. at 2. (Emphasis added.) Based upon consideration of all these factors, ADEM's best professional judgment in 2012 was that the elevated level of total dissolved solids supported the continued inclusion of Segment 2 of Lost Creek on the CWA 303(d) list for siltation. Id. at 2. Moreover, "[w]ater chemistry analyses suggested the elevated total dissolved solids, specific conductance, and alkalinity concentrations may be impacting macroinvertebrate communities." Id.

With no additional sampling or studies since, ADEM now concludes the opposite in 2018 and proposes to delist the stream.

The 2012 conclusions for Segment 1 mirror those for Segment 2. "Overall habitat quality was rated as sub-optimal due to inadequate habitat quality and bank stability." 2012 Lost Creek (Hwy 78) Monitoring Study at 1. The median value of total dissolved solids higher than expected when compared to reference reaches in ecoregion 68. Id. at 2. Water chemistry analyses suggested the elevated arsenic, manganese, total dissolved solids, specific conductance, hardness and alkalinity concentrations may be impacting macroinvertebrate communities. Id. (Emphasis added.) "The elevated level of total dissolved solids supports the continued inclusion of Lost Creek [Segment 2] on the CWA 303(d) list for siltation." Id..

Finally, in addition to the fact that TSS and turbidity are poor proxies for siltation, relying exclusively upon older data fails to reflect the sediment loading permitted during the interim. In addition to abandoned prelaw mine sites, at least six active surface coal mines were in operation on Lost Creek or its tributaries since ADEM's data was gathered: Cedrum 8750 Mine (AL0026981); Choctaw Mine (AL0072184); Crescent Valley Mine (AL0078751); Carbon Hill Mine (AL0079553); Sparks Branch Mine (AL0078972) and Reeses Branch Mine (AL00775931). All of these NPDES permits authorized the contribution of significant sediment to Lost Creek or its tributaries; for example, Cedrum 870 Mine's NPDES permit contains a TSS loading of 22.99 tons per year. Reeses Branch Mine has been the location of serial bank slumps into Lost Creek caused by poor mining practices:

According to ADEM's delisting decision, "[b]oth segments of Lost Creek were originally identified by the State of Alabama as impaired for siltation (habitat alteration) by unknown sources, but the source of impairment has since been attributed to abandoned surface mining operations" so the continuing contributions of these sites when aggregated with the permitting of additional surface mines is critical to consider. So a limited number of samples taken without reflecting additional sediment loading from these and other operations do not accurately portray Lost Creek's condition today.

The Department must withdraw this proposed delisting and return to its 2012 judgment that the elevated level of total dissolved solids support the continued inclusion of Lost Creek on the Section 303(d) List. What makes the proposed removal of Lost Creek from the protections of the Section 303(d) List and the addition of more sediment to these waters even more disturbing is the known presence of the threatened flattened musk turtle and the endangered Black Warrior waterdog in Lost Creek. These creatures are found in the Black Warrior basin and nowhere else in the world. Their preferred habitat is freshwater, rock-bottomed streams. Siltation is the biggest threat to their recovery and survival. Historically, strip mining for coal and industrial pollution have severely impacted the turtle and the waterdog. As far back as 1981, U.S. Fish and Wildlife Service contracted with Dr. Robert H. Mount, Auburn University, to determine the status of the flattened musk turtle. In his report, Dr. Mount concluded that the single greatest threat to the turtle is siltation, and he placed the major blame for siltation on surface coal mining. See Ernst, Cox and Marion, The Distribution and Status of the Flattened Musk Turtle, Tulane Studies in Zoology and Botany, Volume 27, Number 1 at p. 2. The removal of these two Lost Creek segments from the Section 303(d) List and ADEM's failure to arrest the siltation of the stream with a TMDL could

contribute to or accelerate the extirpation of the flattened musk turtle and the Black Warrior waterdog in Lost Creek.

Response 5: While two segments of Lost Creek were addressed in one delisting document, the document included data from at least one station located on each listed segment. The evaluation of Lost Creek was conducted in accordance with the Department's 2018 Water Quality Assessment and Listing Methodology. Though the TDS at these stations was higher than the applicable eco-reference value, the macroinvertebrate communities were still found to be in fair condition. The water quality data most applicable to the evaluation of siltation impairments include total suspended solids and turbidity, which were both below the applicable ecoreference values at each station. The Department believes that this data, along with the macroinvertebrate assessment ratings of fair and habitat ratings of sub-optimal, provide sufficient evidence that Lost Creek is not impaired due to siltation (habitat alteration). In addition, NPDES permits issued by the Department are written to be protective of Alabama's narrative and numeric water quality criteria, whether or not the stream is listed as impaired.

Comment 6:

Locust Fork

Just as the Department has combined the delisting of two segments of Lost Creek, ADEM has attempted to simultaneously evaluate four segments of the Locust Fork to obscure the lack of information used to "justify" the removal of 303(d) and subsequent TMDL protections for one of Alabama's most beautiful and biodiverse rivers. At least with Lost Creek, ADEM evaluated each segment independently while combining the data into a single delisting document. For the Locust Fork, unfortunately, ADEM has chosen to present the limited data for each sampling station as if it is applicable to all four 303(d) listed segments, further confusing the issue and hiding the lack of data underlying the flawed delisting decision.

Because there is no numeric criterion for siltation, ADEM again relies on three criteria to delist the four segments: water quality sampling, together with one habitat assessment and one macroinvertebrate study for each segment. ADEM notes that its decision, "to delist the Locust Fork for siltation was authorized under ADEM's Water Quality Standards Program, which employs both numeric and narrative criteria to ensure adequate protection of designated uses for surface waters of the State." Locust Fork Delisting Decision at 11. "Historically, in the absence of established numeric criteria, ADEM and/or EPA would use available data and information coupled with best professional judgement to determine overall use support for a given waterbody." Id at 12. "For the siltation (habitat alteration) impairment status, relative biological health and habitat suitability will be evaluated along with an assessment of the instream total suspended solids (TSS) and turbidity data." Id.

To support a delisting decision, the data cited must have been collected within the last six years. See ADEM Listing Methodology at 36. ADEM's data is at the extreme outside of that six-year window with all of the habitat assessments and macroinvertebrate assessments conducted on June

20, 2012, nearly 5 years and nine months ago. Locust Fork Delisting Decision at 15-16. ADEM could and should have verified the results from the 2012 habitat assessments and macroinvertebrate assessments several times in the intervening years to produce a statistically significant and reliable data set.

If ADEM is relying primarily on habitat assessment and macroinvertebrate studies, they need more than one set for each of the four segments the Department proposes to delist. Significantly, the results of the habitat assessments and macroinvertebrate studies that ADEM relies upon actually suggest that at least the three downstream segments continue to be badly compromised (while the data for the other (upstream) segment should still be corroborated through additional data collection). For instance, of the macroinvertebrate assessments performed in each of the four impaired segments, all four stations rated as "Fair" for community health, the second lowest category. Of those four "Fair" ratings, only the upstream assessment at LFKB-1 was well within the range for a "Fair" rating. Macroinvertebrate health at LFKB-2 rated at 14, near the bottom of the range for a "Fair" rating, while LFKB-8 and LFKJ-3 received the lowest score possible before dropping into the "Poor" rating. This is hardly an indication of healthy macroinvertebrate communities or a vibrant river. On the contrary, these results indicate that sediment and/or water quality are having severely negative impacts on habitat. Similarly, with regard to habitat assessment results, LFKB-2 and LFKB-8 both rated as "sub-optimal" habitat with LFKB-8 just 3 points above a "marginal" rating. LFKJ-3 rated as "marginal" for habitat quality. Again, these results indicate that the Locust Fork is still impaired and should not be removed from the 303(d) List.

Furthermore, the data from each of the four segments demonstrates a clear trend toward diminishing water and habitat quality as the river flows downstream, with lower scores for habitat assessments and macroinvertebrate community assessments at downstream stations, and higher concentrations of TSS and more turbid water at downstream stations. See Locust Fork Delisting Decision at 15-19. This data clearly indicates that there is a cumulative negative impact from upstream sources of sediment that are taking a toll on downstream habitat quality. The fact that sediment is accumulating downstream indicates that the sediment loading in the Locust Fork is exceeding the river's capacity to assimilate and/or flush the sediment downstream. As such, it is evident that impaired conditions continue to exist in the Locust Fork. This documented impairment well illustrates the need for continued Section 303(d) protection: ADEM must develop a TMDL for sediment/siltation in the Locust Fork, and not delist the river.

With respect to the 2012 monitoring data that ADEM cites in its delisting decision, the data continues to support impairment.4 For example, in the 2012 Locust Fork (Hwy 231) Monitoring Study the Department acknowledges that the median concentration of total dissolved solids was higher than expected for streams in the Southern Table Plateaus ecoregion and that total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68d. Id. at 3- 4. Similarly, the 2012 Locust Fork (Vaughn's Bridge) Monitoring Study observed that not only was overall habitat quality sub-optimal, but that bank and vegetative stability was marginal, bank erosion was visible and riffle frequency was poor. Id. at 2. The summary states that the median concentration of total dissolved solids was higher than expected for streams in the Dissected Plateaus ecoregion. Id. Sand and silt deposition could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities; efforts

to reintroduce aquatic snails and mussels in this segment were characterized as "variable." Id. at 4. Biological surveys indicated moderate changes in the community structures due to the replacement of sensitive taxa by more tolerant taxa. Id. Continued monitoring of the reach was recommended, as water chemistry analyses showed that concentrations of total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68e. Id.

For the 2012 Locust Fork (Road 77) Monitoring Study, overall habitat quality was rated as marginal for supporting biological communities due to sediment deposition and bank failure in the reach. Id. at 2. The metric results indicated the macroinvertebrate community to be in fair condition with a score of 12, id. at 3 – the lowest possible score a survey can yield before being characterized as "Poor." Median concentrations of total dissolved solids were found to be higher than expected for streams in ecoregion 68. Id. A Geological Survey of Alabama fish assessment was scored at 34 --- one point away from "Poor." Id. Median concentrations of total dissolved were higher than expected for streams in ecoregion 68. Id. Overall habitat quality was categorized as marginal for supporting macroinvertebrate communities, due to sedimentation and bank erosion in the reach. Sedimentation issues could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities. Id. at 5. Concentrations of total dissolved solids were elevated as compared to data from ADEM's least-impaired reference reaches in ecoregion 68. Id.

The Department's 2012 Locust Fork (Warrior-Kimberley Road) Monitoring Study is just as bad. Overall habitat quality was rated as sub-optimal for supporting biological communities, scoring only two points away from a "marginal" rating. Id. at 3. Bank and vegetative stability was marginal in the reach due to signs of bank erosion and sedimentation. Id. at 2. The metric results indicated the macroinvertebrate community to be in fair condition, scoring a 12, which is the lowest possible score for a "Fair" assessment. Id. at 3. Benthic substrate at the sampling station was mostly sand, which provides unstable habitat for macroinvertebrates. Sediment deposition could lead to the loss of critical habitat in the reach and have significant impacts on the biological communities. Id. at 4.

The breakdown of the data outlined above, which documents the continuing impairment of the Locust Fork, requires the Department to withdraw this proposed delisting. What makes the proposed removal of the Locust Fork from the protections of the Section 303(d) List and the addition of more sediment to these waters even more disturbing is the known presence of, historical presence of, viable habitat for, and/or designated critical habitat for numerous rare and/or endangered aquatic species, many of which are included in the unofficial (and perhaps not comprehensive) list: "Locust Fork Rare Aquatic Species." See Exhibit 1. ADEM's failure to implement a TMDL for the Locust Fork will exacerbate conditions in the river, leading to adverse effects on the Alabama State Wildlife Action Plan and Endangered Species Act status of these species, or even lead to the extirpation of these and other species in the Locust Fork. Sediment deposition is universally acknowledged as one of the biggest threats to the habitat, survival, and recovery of these rare species.

Response 6: While four segments of Locust Fork were addressed in one delisting document, the document included data from at least one station located on each listed segment. The evaluation of Locust Fork was conducted in accordance with the Department's 2018 Water Quality

Assessment and Listing Methodology. Though the TDS at some of these stations was higher than the applicable eco-reference value, the macroinvertebrate communities were still found to be in fair condition. The water quality data most applicable to the evaluation of siltation impairments include total suspended solids and turbidity, which were both below the applicable ecoreference values at each station. The Department believes that this data, along with the macroinvertebrate assessment ratings and habitat ratings described in the delisting document, provide sufficient evidence that Locust Fork is not impaired due to siltation (habitat alteration).

Comment 7:

Newfound Creek

Much like the Department's decision to delist Lost Creek and the Locust Fork, ADEM should not delist Newfound Creek because the Department has not collected the data to justify such a decision. Again, ADEM has employed just one macroinvertebrate assessment, and one habitat assessment at a single station in the impaired segment as justification for the delisting decision. Once again, all the data for the delisting decision, including narrative criteria assessments and water quality data, was collected in 2012, on the outer limits of ADEM's six-year window. That data should only be used to supplement more recent data, which ADEM fails to supply.

The 2012 Newfound Creek Monitoring Study shows that ADEM failed to follow its own cited guidance in proposing to delist Newfound Creek.5 "Since 1998, Newfound Creek, from Five Mile Creek to impoundment (approximately 2.76 miles), has been on Alabama's Clean Water Act (CWA) §303 (d) list of impaired waters for only partially meeting its Fish and Wildlife (F&W) water use classification." Id. at 1. (Emphasis added.) According to ADEM's delisting decision, Newfound Creek is still only partially meeting the F&W designation, so the Department cannot delist the stream. Listing Decision at 5.

For the purpose of determining use support for siltation, ADEM defines "Partial Supporting" where "Macroinvertebrates are determined to be Fair (Moderately Impaired) and Chemical/Physical/Field Data indicate impairment." Id. Bioassessment results indicate the macroinvertebrate community in Newfound Creek was in "Fair" condition. 2012 Newfound Creek Monitoring Study at 2. That study also indicates continued impairment: median concentrations of total dissolved solids "were higher than expected based on the 90th percentile of all reference data collected in the ecoregion 68f." Id. According to ADEM's on guidance cited in the delisting decision, where macroinvertebrates are determined to be "Fair" and the field data continues to document impairment, ADEM must find that the waterbody only partially supports its F & W use. ADEM has cited no data to support removing Newfound Creek from the § 303(d) List: just as when the creek was originally listed, it still only partially supports a F&W use.

ADEM's fervor to delist impaired streams, rather than develop TMDLs to protect water quality for all who depend upon it is extremely disappointing. The Department must withdraw this proposed delisting.

Response 7: The evaluation of Newfound Creek was conducted in accordance with the Department's 2018 Water Quality Assessment and Listing Methodology. The water quality data most applicable to the evaluation of siltation impairments include total suspended solids and turbidity, which were both below the applicable ecoreference values. The Department believes that this data, along with the macroinvertebrate assessment rating of fair and habitat rating of optimal, provide sufficient evidence that Newfound Creek is not impaired due to siltation (habitat alteration).

Comment 8:

Big Yellow Creek

"For waters originally placed in Category 5 due to a specific toxic pollutant or specific toxic pollutants, there should be no violations of the appropriate criteria in a minimum of eight samples collected over a three-year period before the cause of impairment is removed …." See ADEM's 2018 Draft 303(d) List Methodology at p. 64. To support delisting Big Yellow Creek for lead, at a minimum the Department must have collected a minimum of eight samples over a three year period; they did not.

Just like in 2012 when ADEM proposed to delist Big Yellow Creek for chromium, a review of the delisting decision reveals that the Department collected only seven relevant samples over a period of seven months, notably excluding the winter months during which discharges from potential sources of lead in the watershed such as coal mines and coalbed methane wells are likely to be more prevalent. Big Yellow Creek Draft Delisting Decision at 14.6 This is neither an adequate number of samples nor an adequate range of time for sampling to support a delisting decision, according to the minimum requirements of the Department's own methodology.

In order to meet the requirements of 40 C.F.R. § 130.7(b)(6)(iv), ADEM must do more than just offer "more recent" data. ADEM must offer solid, persuasive and relevant data to demonstrate a "detailed rationale" for de-listing Big Yellow Creek. ADEM may have offered more "recent" data but this data is not adequate to meet the requirements of either 40 C.F.R. § 130.7(b)(6)(.iv) or ADEM's own listing methodology. ADEM has only supplied an inadequate number of samples taken over an artificially limited period of time, which do not support ADEM's contention that delisting is warranted.

ADEM has also predicated the decision to delist Big Yellow Creek on the false assumption that there are "no active continuous point sources with . . . NPDES permits within the listed portion of the Big Yellow Creek watershed." Big Yellow Creek Draft Delisting Decision at 9. The decision then proceeds to identify Warrior Met Coal BCE, LLC (Blue Creek Energy No. 1 Mine) as non-continuous point source within the watershed. Based upon information and belief, ADEM has incorrectly asserted that Blue Creek Energy No. 1 Mine will not discharge continuously. The coal mine is an underground mine, meaning that when it is fully operational, the underground works will need to be pumped free of intruding groundwater, leading to the necessity of continuously discharging point sources. While the most recent available inspection report available in eFile

indicates that the mine is currently inactive, the facility's DMRs indicate that DSN010 already discharges on a nearly continuous basis, reporting only one month with no discharge in 2017.

Because ADEM has failed to adhere to its own methodology to collect an adequate number of samples, and because ADEM has based its decision on incorrect assumptions about the potential contributions of point sources, the Department must withdraw this proposed delisting.

Response 8: None of the seven samples collected in 2014 were above the water quality criteria for lead. Samples were collected over the period of March through October, which represented a variety of flow conditions. Samples were also collected in both 2008 and 2012, and while the detection limits for most of those samples were above the applicable water quality criteria, all of the sample results were below the detection limit. In addition, as noted in the delisting document, the Department believes the original listing was flawed in that it was based on total lead data, while Alabama's water quality criteria are expressed as dissolved lead. As such, the Department believes it has provided adequate documentation that indicates that Big Yellow Creek is not impaired for lead.

Warrior Met Coal BCE, LLC (Blue Creek Energy No. 1 Mine) is not currently engaging in mining activities. According to the most recent inspection, Outfall 010 receives drainage from a disturbed area that was cleared to be used for a warehouse and storage, not mining activities. However, the permit reissuance process will include a reasonable potential analysis to determine if there is a reasonable potential for the discharge(s) to contribute to violations of Alabama's water quality criteria for lead (along with other parameters). If reasonable potential exists, appropriate limits will be imposed in the permit. Therefore, even if the facility discharges on a continuous basis, the permit will be protective of Alabama's water quality criteria.

Comment 9: In 2016, ADEM indicated it was in the process of developing a Statewide Mercury TMDL, so that it would not develop individual TMDLs for waters impaired by mercury. Alabama's Draft 2016 §303(d) List Fact Sheet at 23. However, there is no mention of this important TMDL in the 2018 Draft List. Is the Department still prioritizing this TMDL? If so, when does ADEM anticipate its release and implementation? If not, why not?

Response 9: The Department still has plans to develop a statewide mercury TMDL. The Water Quality Branch is assessing the data that is currently available and determining the best approach to addressing mercury on a statewide level. A timeframe for the establishment of this TMDL will be determined once the evaluation of the available data has been completed.

Comment 10: We have been advocating for the streams of the Black Warrior Basin during the § 303(d) List public comment process for years. If the Department proposes to delist a stream, we ask that you follow the prescribed scientific process and furnish a detailed, supported rationale as to why. If the Department's data actually supported delisting these waterbodies in 2012, we fail to

understand why ADEM did not propose to delist them during the 2014 or 2016 Section 303(d) cycle. To propose them now invites skepticism.

With respect to TMDL development, while we know that ADEM is not required to submit TMDLs during a certain prescribed period of time, to date the pace has been far too slow. If a lack of staffing and funding plays a part, then the Department needs to tell the public what it is doing to get the necessary resources. The impaired streams of the Black Warrior cannot wait any longer for the promised protections of the § 303(d) List or TMDL development. The health and well-being of Alabama's citizens hang in the balance while ADEM continues its delay. The development of a prioritization system for TMDLs is only effective if ADEM actually uses this framework to develop and implement these TMDLs.

Response 10: The Department believes that the proposed delistings are supported by the available data and information and that the rationale for such delistings has been appropriately presented. Regarding TMDL development, the Department has prioritized a number of waterbodies in the Black Warrior River basin for TMDL development in the near future and has recently developed TMDLs for several waterbodies in the basin, including Black Branch and multiple segments of both Village Creek and Locust Fork. The Department is committed to using our available resources to make sure that the prioritized TMDLs are completed in a timely fashion.

II. City of Auburn Comments (03/07/2018):

Comment 1: We advise the removal of Sougahatchee Creek (pathogens) from the proposed list until a more refined, intensive study can be performed to A) narrow the most probable source reach to a specific HUC 12 or HUC 14 within the proposed listing reach and B) perform a microbial source identification study to determine the most probable cause(s)/source(s).

Response 1: Sougahatchee Creek was listed for pathogens according to the guidelines set forth in our listing methodology. We have listed potential sources based on our observations of this watershed. As more data is collected to develop a TMDL we will be able to determine the most likely sources and develop our plan accordingly.

Comment 2: It is unclear in the "Basis for Addition to the List" column of the Fact Sheet which criterion the data were assessed against. For example, were the 2011-2013 data assessed against the previous criterion of 487 CFU/100 mL, or retroactively assessed against the corrected and current criterion of 298 CFU/100 mL?

Response 2: All data was assessed using the current promulgated pathogen criterion, based on its use classification.

III. Coosa Riverkeeper (03/13/2018):

Comment 1: We appreciate your consideration of our comments to Alabama's Water Quality Assessment and Listing Methodology (the "Methodology"). We are satisfied that our requests for old data to be reviewed in light of revised bacteria standards was met and is evident in a significant increase in the number of listings for pathogens that more accurately reflects the state of our creeks. The addition of one section of Choccolocco Creek, two sections of Big Wills Creek and a section of Shirtee Creek to Category 5 for bacteria impairments satisfies some of the requests we made in that October 6, 2017 letter.

Response 1: Comment noted.

Comment 2: However, additional upstream sections of Choccolocco Creek, as well as the Snow Creek and Eastaboga Creek tributaries, are also not meeting bacteria standards. We submitted data to your Department that sufficiently meets the minimum data requirements and was accompanied by requested QA/QC documentation. Yet, it is unclear if the Department considered this data in its listing decisions in accordance with the Methodology.

According to the Methodology, data submitted by Coosa Riverkeeper "will be considered and evaluated, provided the data meet the minimum data requirements specified for each designated use and comply with the quality control and quality assurance requirements discussed in Section 4.9."

§4.9 of the Methodology states that "the decision not to use certain data will be documented." Because our data indicates clear impairments and clear potentials for impairment, and meets minimum data requirements with satisfactory QA/QC documentation, we expect the Department to document in its response to these comments the reasons that it did not make listing decisions based on that data in accordance with the Department's guidance. This information will be used to ensure we can properly assist the Department in achieving our mutual goal of fully assessing the waters of the Coosa Valley.

Response 2: The Department appreciates the ongoing efforts of all citizen monitors located throughout the State of Alabama. Over the years, the Department has utilized data and information collected by volunteer monitors to make more informed decisions with respect to our monitoring and assessmentprograms; however, such data is not used solely by the Department to make 303(d) use support decisions.

Comment 3:

Choccolocco Creek PCBs

The Department claims that its "Good Cause Justification for Removal" of the Choccolocco Creek assessment unit is that "a TMDL is not needed for this pollutant (PCBs) as it is being addressed by EPA and ADEM under the CERCLA program (ALD000400123)." In its online documentation, the Department irrelevantly links to an EPA Interim Record of Decision for Operable Unit 3, which has essentially nothing to do with Choccolocco Creek.

The reason the Department's justification is lacking is that there is no reasonable expectation of near-term attainment of applicable water quality standards. EPA guidance states that a previously listed waterbody may be removed prior to TMDL development "if such a waterbody is meeting all applicable water quality standards (including numeric and narrative criteria and designated uses) or is expected to meet these standards in a reasonable timeframe (e.g. two years)." Category 4b is characterized as being for units where "a TMDL is not needed because other pollution control requirements are expected to result in the attainment of an applicable water quality standard in a reasonable period of time."

The Department is implicitly claiming that it expects this unit to meet applicable water quality standards in a reasonable timeframe, which EPA has guided the Department to consider as two years. Furthermore, in its "Good Cause Justification for Removal" the Department has alleged that the CERCLA program is the pollution control requirement which will result in the attainment of applicable water quality standards within two years.

PCB production between 1929 and 1971 meant the dumping of millions of pounds of PCBs into our environment. Choccolocco Creek is no longer safe to eat any fish from, and will remain this way for decades to come. The CERCLA program will not change that. At most, Operable Unit 4 of the CERCLA program "includes Snow Creek and its floodplain downstream of Highway 78 to the meeting point of Snow and Choccolocco Creeks, and Choccolocco Creek from the backwater area upstream of Snow Creek to Lake Logan Martin." This is the final Operable Unit of the CERCLA program that will test for and potentially remediate PCBs.

A Remedial Investigation is three years behind schedule and has still not been published. EPA's current proposed timeline to complete a feasibility study report is 2019. This is highly ambitious given the history of progress. Work to remediate the site will not begin in a reasonable timeframe, let alone be completed and result in the attainment of water quality standards. Even after work is complete on the CERCLA program, attainment of water quality standards (i.e. no fish consumption advisories for PCBs) will still take a long period of time.

For the Department to have a reasonable expectation of cleanup with two, or even five or ten years, the project should have a history of progress and a timeline of work nearly complete, and the work should be expected to restore the affected bodies of water to the quality standard. No indication that this is the case is provided by a review of the CERCLA project. A Remedial Investigation on Operable Unit 4 that was originally scheduled to be posted in 2015 has still not been posted at the time of this writing and there are doubts it will even be completed during the 2018 calendar year.

The Department could not possibly have a reasonable expectation of the CERCLA program resulting in the attainment of applicable water quality standards in two years on Choccolocco Creek, although the Department implicitly claims to have this expectation by indicating the intention to move this unit to Category 4b.

The Department has wrongly proposed to remove this unit from Category 5 and place it into Category 4b. The Department's action is arbitrary and capricious. The Department should reevaluate its expectations of the ability of the CERCLA program to result in the attainment of water quality standards within the next two years. Upon such review, we expect the Department to recognize that this unit must remain in Category 5 until such point in the future when the CERCLA program can show it will actually result in the attainment of the applicable water quality standards.

Moving this unit to Category 4b at this time is in opposition to the spirit and letter of the Clean Water Act. The Department must leave this unit in Category 5 at this time, and until such a time that it is safe to consume the fish from Choccolocco Creek.

Response 3: Based on the available data and information received and upon further investigation, the Department will keep Choccolocco Creek in Category 5.

IV. Jacoby & Meyers, LLC (03/07/2018):

Comment 1: In over 37 years of practicing law, I have represented numerous landowners and other stakeholders who have suffered grievous personal injuries and diminution (or total loss) of the value of land because of the negligent, reckless, or intentional discharge into soil, groundwater, waterways and watersheds, and air of persistent and volatile industrial chemicals, including lead (via mining operations, discharge of leaded gasoline and aviation fuel) and other heavy metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs) and solvents, including benzene, methylene chloride, perchloroethylene, and MTBE. I have successfully sued mine operators, coalbed methane operators engaged in hydraulic fracturing, refiners, and other entities in Alabama, Mississippi, Louisiana, Texas, and other states for their negligent or culpable conduct in environmental contamination.

Based on my extensive and relevant experience, I substantively oppose the Commission's proposed delisting of Big Yellow Creek in the 2018 Draft List prepared pursuant to section 303(d) of the Clean Water Act, 33 U.S.C. 1313(d). Big Yellow Creek is currently listed as impaired for metals and lead. Due to the heavy industrial activity along Big Yellow Creek and its tributaries, that continues and promises to continue in the future due to the operations of Warrior Met Coal and various coalbed methane producers, the proposed delisting, which necessarily includes a finding that there are "no active continuous point sources with . . . NPDES permits within the listed portion of the Big Yellow Creek watershed." Big Yellow Creek Draft Delisting Decision at 9, defies reality and common-sense. ADEM has incorrectly asserted that Blue Creek Energy No. 1 Mine, operated by Warrior Met Coal, will not discharge continuously. The coal mine is an underground mine, and when it is fully operational, the underground works will need to be pumped

free of intruding groundwater, leading to the necessity of continuously discharging point sources. Based upon my experience, this discharge will contain lead or other heavy metals, solvents, and other chemicals that pose a known and substantial risk to human health, as well as the land and air itself. While the most recent available inspection report available to me indicates that the mine is currently inactive, the facility's DMRs indicate that DSN010 already discharges on a nearly continuous basis, reporting only one month with no discharge in 2017.

Other objectors, including Black Warrior Riverkeeper, have voiced their opposition to the proposed delisting of Big Yellow Creek on both substantive and procedural grounds, inasmuch as the proposed delisting is in violation of the Department's own requirements for gathering evidence and data prior to a delisting decision. With the additional bases of opposition set out above, I join in those objections and those entities' opposition.

Response 1: See ADEM response to Black Warrior Riverkeeper Comment #2.

V. Jefferson County Commission (03/13/2018):

Comment 1: Including the Little Cahaba River on Alabama's 2018 Section 303(d) List is inappropriate for several reasons. First, the macroinvertebrate community assessment summary report, which serves as the basis for the proposed listing, offers no evidence of a connection between TDS concentrations in the Little Cahaba River and the "poor" macroinvertebrate community condition. In fact, the Summary section of the report makes no mention of TDS concentrations measured during 2012 but notes that "[m]edian values for some physical parameters, nutrients, chlorides, cadmium and copper were higher than values expected based on reference reach data collected in ecoregion 67f." This finding is not surprising given that the Little Cahaba River flows through a highly developed watershed with numerous potential sources for these pollutants. The listing assumes a direct and substantial connection between TDS and bioassessment scores without consideration of numerous other factors that would be expected to contribute to macroinvertebrate condition in an urban stream environment. Linking the macroinvertebrate community condition to TDS is without supporting data and appears arbitrary.

Secondly, including Little Cahaba River on the 2018 Section 303(d) List is inappropriate because there is no evidence that the "poor" macroinvertebrate community condition is caused by TDS from municipal wastewater treatment facilities, as indicated on the proposed list. In fact, there is no evidence that the Leeds WWTP or any other municipal WWTPs are responsible for the condition of the macroinvertebrate community in Little Cahaba River. On the contrary, there is evidence that the Leeds WWTP is not responsible for the condition of the macroinvertebrate community in Little Cahaba River. Whole effluent toxicity (WET) testing results submitted by the ESD, as required by the National Pollutant Discharge Elimination System (NPDES) permit (AL0067067) monitoring requirements for the Leeds WWTP, indicate no effluent toxicity for the two years preceding the macroinvertebrate community assessment study.

Finally, including the Little Cahaba River on the 2018 Section 303(d) list for water quality impairment caused by TDS is inappropriate because there is no evidence that the TDS

concentrations measured in Little Cahaba River are sufficiently high to harm macroinvertebrates. The United States Environmental Protection Agency (USEPA) has not published a national recommended water quality criterion for TDS protective of freshwater aquatic life, and there are no numeric water quality criteria for TDS in ADEM's water quality standards regulations. The most recent National Recommended Aquatic Life Criteria Table, published by USEPA in 2016, makes no reference to Dissolved Solids or TDS. USEPA's "Quality Criteria for Water" dated May 1, 1986, and known as the "Gold Book", does include recommended water quality criteria for dissolved solids but only for protection of public water supplies to prevent taste and corrosion problems in drinking water systems. The document makes a brief reference to studies in Saskatchewan that indicated several common freshwater species of fish survived concentrations of dissolved solids as high as 10,000 mg/L.

A more recent research paper published in 2007 is attached to these comments. The paper is titled "Effects of Total Dissolved Solids on Aquatic Organisms: A Review of Literature and Recommendation for Salmonid Species", by Phyllis K. Weber-Scannell and Lawrence K. Duffy, and presents the results from several studies that examined the toxicities of various ionic mixtures to common invertebrate species. The toxicity of the ionic mixtures varied by invertebrate species and by the composition of the mixture. For example, significant effects were reported in chironomid larvae when the concentration of CaSO4 exceeded 1100 mg/L. Other researchers reported a 48-hour LC50 of 735 mg/L for C. dubia exposed to NaHCO3. Mixtures of KHCO3 and K2SO4 had the lowest 24-hour and 48-hour LC50 concentrations for C. dubia at 390 mg/L. Mixtures of CaSO4 and K2CO4 resulted in a 24-hour LC50 of 1140 mg/L and a 48-hour LC50 of 1130 mg/L for C dubia. Other ionic mixtures resulted in LC50 concentrations of 2000 mg/L to 4000 mg/L and higher. None of the TDS concentrations reported by ADEM for the Little Cahaba River approach these concentrations. TDS concentrations measured at ADEM trend station LC- 1, the location where the macroinvertebrate community assessment was conducted, ranged from 136 mg/L to 270 mg/L during the fifteen months preceding the macroinvertebrate assessment on May 1, 2012. Additionally, a cursory search and review of published TMDLs which include a TDS component indicate target concentrations in the range of 1,000 to 1,500 mg/l.

The Jefferson County Commission ESD recommends that Little Cahaba River not be included on the 2018 Section 303(d) List. If the waterbody segment is listed, it should be as a Category 2a water until the status of the macroinvertebrate community can be confirmed and/or the cause of the "poor" macroinvertebrate community condition and its sources can be definitively identified. ADEM's 2018 Water Quality Assessment Methodology, dated January 1, 2018, supports this categorization for the Little Cahaba River. Figure 11 on page 40 of the document describes the waterbody categorization process for waters with a designated use of Fish and Wildlife. Specifically, when the cause of impairment in a biological community cannot be identified, the waterbody is placed in Category 2a and targeted for additional data collection to identify the cause of impairment.

Response 1: The Little Cahaba River was added to the 2018 303(d) list due to Total Dissolved Solids (TDS) exceeding the Ecoregional Value for Ecoregion 67f and due to the 2007 and 2012 macroinvertebrate surveys indicating the macroinvertebrate community to be in *poor* condition. Studies conducted in the southeastern United States have found TDS highly correlates with decreased numbers of Ephemeroptera, Plecoptera, and Trichoptera; decreased numbers of total

taxa; decreased numbers of collector-gatherer taxa; and an increase in percent dominant taxa. The results of the study are consistent with the metric responses observed in the Little Cahaba River.

Based on limited TDS data from municipal sources, the Department has decided to remove municipal as a source; however, the Department plans to conduct additional source assessments to determine the source(s) of the TDS impairment.

VI. Logan Martin Lake Protection Association (03/12/2018):

Comment 1:

AL03150106-0514-100 Choccolocco Creek

LMLPA is concerned about removing this assessment unit from the 303(d) List and placing it in Category 4b, rather than developing a TMDL for this unit. ADEM lists the CERCLA (Superfund) program at the Anniston PCB site as the justification for removal of Choccolocco Creek from the 303(d) list because "Other pollution control requirements are reasonably expected to result in the attainment of the water quality standards in the near future."

LMLPA's concern is the term "near future". We expressed this same concern to you in 2012 regarding the anticipation by the EPA that the Record of Decision (ROD) for Choccolocco Creek would be in 2015. It is now 2018 and there is no ROD as yet, nor a Remedial Investigation/Feasibility Study (RI/FS), nor even the Baseline Ecological Risk Assessment (BERA), all of which are required before the ROD can be determined.

The EPA web site indicates that the BERA was scheduled for completion in 2017. "OU4 includes Choccolocco Creek and its floodplain, where an ecological risk assessment is scheduled for completion in 2017, followed by a remedial investigation report in 2018 and a feasibility study report in 2019."

Even now in 2018 Solutia's January Progress Report anticipates "Review and comment on the OU-4 BERA Addendum prepared by the EPA" during February and March of 2018.

This delay in completing the BERA further pushes out the anticipated completion dates for the RI/FS as well as the ROD and the Consent Decree for OU-4. Although the Consent Decree has been signed for OU-3, the plant site, and most of the work completed, that is not the case for OU-1/OU-2, the residential and nonresidential properties. The ROD for OU-1/OU-2 has been issued, but there is no Consent Decree, thus no timeline for completion of remedial work. Because all these issues affect Choccolocco Creek, they certainly cast doubt on the "near future" reasoning for placing Choccolocco Creek in the 4b category. Before assigning Choccolocco Creek to the 4b category, the better question to ask might be "When will it be safe to eat the fish?"

Response 1: See 2018 ADEM Response to Coosa Riverkeeper Comment # 3 above.

VII. Dianne Lollar (03/13/2018):

Comment 1: I am writing to oppose the delisting of Lost Creek per Public Notice 214: Notice of Availability of the Proposed Section 303 (d) List of Impaired Waters for 2018.

I along with other land owners on Lost Creek continue to see sediment loading and loss of habitat in the creek. In July 2017 a surface mining operation in the Pleasant Grove Community in Walker County opened emptying run-off from the mining operation into Lost Creek, adding yet another source of sediment to the creek.

In 2012 ADEM concluded the elevated level of total dissolved solids supported the continued inclusion of Lost Creek on the CWA 303(d) list for siltation. With added sources of pollution in 2017 we are requesting Lost Creek continue on the List of Impaired Waters.

The Lost Creek I enjoyed as a child with clear, clean water and fresh water mussels no longer exists. We must seek to protect our God given water sources for future generations.

Response 1: See 2018 ADEM Response to Black Warrior Riverkeeper Comment # 5.

VIII. Lynne and Kirk McNair (03/12/2018):

Comment 1: It has recently come to our attention that ADEM is considering de-listing Big Yellow Creek from Alabama's 303(d) list of impaired waterbodies. For those of us who live here or spend time here on this wonderul example of Alabama The Beautiful, this is distressing news. This is a recreational impoundment that is surrounded by potential hazards from mining, gas extraction, clear-cutting, etc. There would seem to be nothing to be gained by de-listing Big Yellow Creek. Obviously, of course, there is the potential for disastrous loss. Those who pollute too often do not fail to do so without the prohibition (and possible penalty) of the state. This has long been a delightful area for the generations of families who have enjoyed fishing, swimming, boating – all of the things that make Alabama a wonderful place to call home. We can't afford to lose that. Thank you very much for your consideration of our homes.

Response 1: See 2018 ADEM Response to Black Warrior Riverkeeper Comment # 8.

IX. Randall-Reilly (03/13/2018):

Comment 1: This is in regards to the delisting of Big Yellow Creek as being impaired for metals / lead. It does not appear that the proper procedures were followed for removing Big Yellow Creek from this list. As a homeowner on the creek I do not appreciate efforts to increase pollutants allowed into the water. Over my lifetime I have seen the creek go from crystal clear to murky with a disgusting film on top of the water every morning. I am highly disappointed in ADEM for not

protecting one of the prettiest sections of water in the state. I implore you to keep Big Yellow Creek on the List of Impaired Waters and protect this beautiful area.

Response 1: See 2018 ADEM Response to Black Warrior Riverkeeper Comment # 8.

X. Mike and Cammie Quinn (03/12/2018):

Comment 1: Please do not vote for the Alabama draft 2018 -303(d) list of impaired waters. My family has owned a home on Big Yellow creek for 50 years. Now my husband and I are sharing with our grandchildren on the creek. At 65, I still ski, and we swim, boat, tube, and fish. We are able to fry the fish from those waters without worrying about pollutants. This piece of heaven has many families and generations sharing and making their precious memories. Please do not allow the potential problems of mining, pollutants, or clear cutting. Please vote against this bill!!!!

Response 1: See 2018 ADEM Response to Black Warrior Riverkeeper Comment # 8.