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MARY M. BUCKELEW
BETTYE FINE COLLINS
SHELIA SMOOT
GARY WHITE

GARY WHITE-COMMISSIONER ENVIRONMENTAL SERVICES

Environmental Services Department
Suite A-300
716 Richard Arrington, Jr. Blvd. N.
Birmingham, Alabama 35203
Telephone (205) 325-5801

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October 26, 2005

Information Quality Guidelines Staff
Mail Code 28221T
U.S. EPA
1200 Pennsylvania Ave., N.W.
Washington, DC. 20460

RE: REQUEST FOR CORRECTION - EPA Region IV Final Report
"EPA Cahaba River: Biological and Water Quality Studies, Birmingham,
Alabama, March/April, July, and September, 2002"

Dear Information Quality Guidelines Staff:

As provided for by EPA policy as outlined in "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency," EPA/260R-02-008, October 2002, the Jefferson County Environmental Services Department (JCESD) is submitting this Request for Correction (RFC) of data presented in the EPA Region IV Final Report titled "EPA Cahaba River: Biological and Water Quality Studies, Birmingham, Alabama, March/April, July, and September, 2002." JCESD has reviewed the report and, has discovered a number of errors and shortcomings that can be summarized into two categories:

- 1) Failure to discuss comprehensively the data collected as the QA/QC component of the macroinvertebrate assessments during the 2002 study.
- 2) Conclusions based on opinion without measured field data to support the opinions cited.

Of particular concern to the County is that the EPA Region IV 2002 report referenced is used as evidence by EPA Region IV and ADEM that certain segments of the Cahaba River are impaired. In fact, page 7 of ADEM's Draft Nutrient TMDL states that "recent field studies by EPA Region 4 in 2002 verified that the Cahaba River continues to exhibit numerous impairments of its aquatic life use."

The above-stated conclusion is not supported by the QA/QC sampling component for certain assessment methods used by EPA Region IV. JCESD is extremely concerned that EPA Region IV did not discuss in the report discrepancies in its QA/QC sampling and subsequent assessment of the benthic macroinvertebrate community. The EPA Region IV report (Table 3, page 18, EPA 2002) indicates that the Cahaba River mainstem sampling sites CR-BT, CR-AH, and CR-BH ranged from "Substantial Impairment" to "Excessive Impairment." However, the EPA Region IV report neglects to discuss the

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metric results of the QA/QC duplicate collection and its importance in understanding the metric results of all other sites. An in depth review of the EPA Region IV report reveals a distinct discrepancy among several assessment metrics when comparing the control site CR-AT results as identified in the EPA 2002 report to the duplicate control sample from the same control site, identified in the report as CR-ATa (see EPA Report, Table 3).

Specifically, when the data for CR-ATa, identified by EPA Region IV as a duplicate sample for control site CR-AT, are used in calculating the indicator assemblage index (IAI), the impairment status is dramatically changed for the Cahaba River monitoring sites. Indeed, results for all stations monitored on the Cahaba River mainstem indicate "No Impairment," with the exception of one site, CR-AH, which indicates "Minimal Impairment." Yet this information is left out of the EPA Region IV report. The EPA Region IV report concludes that the IAI indicated "Substantial Impairment" or "Excessive Impairment" at sites CR-BT, CR-AH, and CR-BH on the Cahaba River. Obviously, there is significant bias associated with this conclusion, as the same assessment using the duplicate control site sample indicates "No Impairment" or "Minimal Impairment" for these same sites. The discrepancies between the control sample CR-ATa and the duplicate control sample are presented in Table 1 below:

Table 1.

EPA Indicator Assemblage Index (IAI) Using Control Site Versus Duplicate Sample From Control

Site	IAI (CR-AT)	Status	IAI (CR-ATa)	Status
LCC-1	1.19	No Impairment	2.38	No Impairment
UT-1	0.72	Minimal Impairment	1.28	No Impairment
CR-BT	0.61	Substantial Impairment	0.99	No Impairment
LCR-2	1.09	No Impairment	2.32	No Impairment
CR-AH	0.35	Excessive Impairment	0.69	Minimal Impairment
CR-BH	0.62	Substantial Impairment	1.00	No Impairment
CR-6	1.78	No Impairment	3.90	No Impairment
CR-7	1.25	No Impairment	2.35	No Impairment
SC-1	2.04	No Impairment	4.23	No Impairment
BC-2	0.29	Excessive Impairment	0.51	Substantial Impairment
BC-3	1.33	No Impairment	2.89	No Impairment
BC-4	0.56	Substantial Impairment	0.97	No Impairment

(Table Continued)

IAI >0.8	No Impairment
IAI 0.65 – 0.80	Minimal Impairment
IAI 0.50 – 0.64	Substantial Impairment
IAI <0.50	Excessive Impairment

Other errors also involve the macroinvertebrate metrics found in Table 3 on page 18 of the report and the conclusions that were based on this data. When the benthic macroinvertebrate data found in Appendix B of the report is used to calculate the metrics found in Table 3, many calculation errors can be found. As an example, the EPT index for station CR-AT is listed as 15 in Table 3, when (at most) only 14 can be accounted for in Appendix B. The actual EPT index value for CR-AT should be 12 and not 15. Family level identifications should not be counted as separate and distinct taxa for the purposes of calculating EPT Taxa and Total Taxa metrics when using genus level data, unless the identification process for that particular family is not carried to the genus level. In light of the above, in this report, Baetidae is acceptable to use as a separate taxa since the identification of organisms in this family of Ephemeroptera was not carried to genus. The Trichoptera family Hydropsychidae and the Ephemeroptera family Heptageniidae should not have been calculated as separate taxa since these families were carried to genus level and the few organisms left at the family level were most likely very early instars or damaged specimens belonging to already identified and counted genera. Discussion of this fact is especially important when considering that two of these metrics are used to calculate a third, more encompassing metric (IAI) comparing all sites back to the control site.

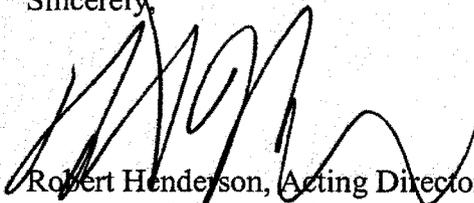
In addition, Jefferson County is concerned that the EPA Region IV 2002 report used statements from Dr. Paul Hartfield (page 29) as fact when there were no supporting data or documentation to verify the statements. For example, one statement reads: "Although the physical effects of nutrification and algae growth on mussels has not been directly addressed in the literature, field observations by Service biologists indicate a direct relationship between dense filamentous algae growth and lack of mussel recruitment in streams and loss of mussel species." These statements were taken as fact based on "field observations" with no data or documentation to confirm these "observations." Further, nothing is presented to indicate how a "direct relationship" was measured or determined among nutrient concentrations, filamentous algae growth, and lack of, or loss of mussel species that confirms a link with nutrient concentrations, filamentous algae growth, and the resultant effects on mussel species. Conclusions should be based on data that supports the "observations." The report concludes the following: "Hartfield indicates that among all field malacologists he contacted, there was a clear consensus of opinion that the occurrence of excessive attached algal growth closely correlates with decline and disappearance of mussel populations". This is another significant statement of opinion that should be supported by documentation/data. Again, there is no measured field data cited that links nutrient concentrations, filamentous algae growth, and the resultant effects of mussel species.

Jefferson County is extremely concerned about the lack of a comprehensive analysis of the QA/QC component of the EPA Region IV 2002 report. It is used extensively in a joint effort between US EPA Region IV and ADEM as a basis for verification of the impairment status of a stream subject to a TMDL that will result in regulatory action. The proposed TMDL, based in part on the EPA Region IV 2002 report mentioned, may result in higher costs to the citizens of Jefferson County for additional treatment that may not be needed. Therefore, it is imperative that accurate and appropriate data is used by EPA Region IV and ADEM to determine the degree of impairment to the Cahaba River.

We formally request that the report be examined for accuracy, the specific issues raised in this letter addressed, and a response sent to the County in writing. In addition, we request that the proposed Cahaba River Nutrient TMDL, which has been based in part on the report in question, be re-examined in light of this information and administrative procedures be enacted to allow for additional comment on the proposed Cahaba River Nutrient TMDL.

Thank you for your attention in this matter.

Sincerely,



Robert Henderson, Acting Director
Jefferson County Environmental Services

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pc: Tom McGill, EPA Region IV
Ed Decker, EPA Region IV
Mary Kay Lynch, EPA Region IV
Trey Glenn, ADEM
Lynn Sisk, ADEM
Chris Johnson, ADEM
J. Lynn Wood, JCES Barton Lab
Kevin Morse, JCES Barton Lab