

**Comment Response Document
Regarding the Total Maximum Daily Loads of Fecal Bacteria for the Non-Tidal Piscataway
Creek Basin in Prince George's County, MD**

The Maryland Department of the Environment (MDE) conducted a public review of the proposed Water Quality Analysis (WQA) of Fecal Bacteria for the Non-tidal Piscataway Creek Basin. The public comment period was open from August 12, 2005 through September 12, 2005. MDE received two sets of written comments.

Due to several comments the Department received, particularly with regard to critical conditions, the referenced WQA document was found not adequate to fulfill the TMDL program's requirements. Using data for the critical condition period, May 1-September 30, the waterbody does not meet water quality standards. Accordingly, a TMDL has been developed using the methodology employed in other non-tidal bacteria TMDLs. The revised draft TMDL was made available for a second public comment period, which was open from April 3, 2006 to May 2, 2006. MDE received no comments during this second public comment period.

Below is a list of commentors from the first public comment period, their affiliation, the date comments were submitted, and the numbered references to the comments submitted. In the pages that follow, comments are summarized and listed with MDE's responses.

List of Commentors

Author	Affiliation	Date	Comment Number
Thomas Henry	Environmental Protection Agency – Region III	September 12, 2005	1-2
Chris Akinbobola	Prince George's County Department of Environmental Resources	September 29, 2005	3-5

Comments and Responses

1. The commentor states that the Designated Uses and Water Quality Standard section in the draft WQA cited the previously applicable water quality standards. The commentor continues that the EPA approved revised standards on August 29, 2005 that removed COMAR 26.08.02.03.A(1) and (2) through (5).

Response: The public comment period for this WQA began on August 12, 2005. The water quality standards that were applicable at the time of the public comment period were noted in the WQA document. The "new" standards were approved and the proposed TMDL document reflects the new criteria.

2. The commentor states that the draft WQA report calculated a weighted year-long geometric mean which was compared to the fecal bacteria criterion. The commentor further states that the year-long geometric mean appears to be inconsistent with the cited State regulations and

also the new applicable regulations. In addition, the commentor cites a table of geometric mean calculations from the WQA that demonstrates “the effects of ignoring seasonal and/or critical environmental conditions”. The commentor states that for the critical period Memorial Day through Labor Day, Piscataway Creek does not meet its designated use (Use I, Water Contact Recreation). The commentor further states that the rolling geometric appears more sensitive to changing conditions and should be used for comparison with the criterion. In addition, the commentor requests that the actual calculations be provided, including (but not limited to) flows at all monitoring stations and any spreadsheets, etc. used in the analysis.

Response: The TMDL analysis now addresses critical conditions and seasonality, considering four different hydrological conditions (wet and dry annual conditions, and wet and dry seasonal conditions) and including the period between May 1st and September 30th, when water contact recreation is more prevalent. The TMDL document provides detailed calculations and monitoring stations flow data used in the flow duration curve analysis, as well as Bacterial Source Tracking (BST) statistical analysis data, in three Appendices to the draft TMDL report.

3. The commentor questions the validity of an analysis based solely on a one-year monitoring period of data collected from October 2002-October 2003, with a monitoring program conducted twice a month for a total of 25 samples for each station. The commentor asks how we can be sure that one year of data is fully representative of the long-term water quality conditions of the watershed, since two samples per month may not present the real conditions of that month. The commentor suggests that this is the reason why the State reached completely different conclusions for two nearby watersheds—the Anacostia River requiring a 98% reduction of bacteria, while existing loads in Piscataway Creek meet the standards.

Response: The Code of Federal Regulations (40CFR130.7) states that all readily available data should be used in the development of the impaired waters list and subsequent total maximum daily loads (TMDLs). The comment is inconsistent with EPA’s guidance since there is no requirement to procure additional data. However, in response to this and other comments, the Water Quality Analysis was determined to be inadequate to meet TMDL requirements, specifically for critical environmental conditions. A TMDL has been developed using the methodology employed in other non-tidal bacteria TMDLs. See Response to Comment #2.

4. The commentor states that the one-year sampling program did not include any storm event monitoring, which may be a significant problem since bacteria levels are much higher for storm events than those for non-storm samples. A completely different conclusion may have been reached had storm event samples been collected.

Response: As shown in Figures B-3 to B-4 of the report, for both bacteria monitoring stations in the non-tidal Piscataway Creek, almost half of the samples were taken during high flow days. The figures show that these samples were taken during days with flow duration percentiles of 30% or lower, which represent conditions where stream flow tends to be dominated by surface runoff from rain events.

5. The commentor states that a more scientific-sound approach is to conduct a detailed modeling analysis using collected data to calibrate the model, and then simulate a long-term (ten years) water quality time series, thereby achieving a better watershed characterization.

Response: The proposed TMDL developed to replace the Water Quality Analysis employs a methodology used in other non-tidal bacteria TMDLs. As explained in the TMDL report (Section 4.1), MDE acknowledges the inherent uncertainty in developing traditional water quality models for the calculation of bacteria TMDLs for the reasons stated in this section of the report. In addition, traditional water quality modeling is very expensive and time consuming and, as identified, contains many potential uncertainties. MDE believes it should be reserved for specific constituents and complex situations. In this TMDL, MDE applies an analytical method which, when combined with BST, appears to provide reasonable results, and allows addressing more impaired streams in the same time period than if using the traditional water quality modeling methods.

REFERENCES

Code of Federal Regulations, Title 40, Volume 19, revised as of July 1, 2003; 40CFR130.7