Comment Response Document
Regarding the Total Maximum Daily Loads of Fecal Bacteria for the Non-tidal Cabin John Creek Basin in Montgomery County, MD

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Loads (TMDLs) of Fecal Bacteria for the Non-tidal Cabin John Creek Basin. The public comment period was open from August 12, 2005 through September 12, 2005. MDE received three sets of written comments.

Due to several comments the Department received, specifically with regard to critical conditions, the referenced TMDL document was revised and made available for a second public comment period. The public comment period was open from November 22, 2005 to December 21, 2005. MDE received two sets of written comments.

Below is a list of commentors, 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 response.

List of Commentors

Author	Affiliation	Date	Comment Number
Jeff Zyontz	Montgomery County Department of Park and Planning	September 2, 2005	1 through 3
Jennifer Murphy, Staff Attorney, and Matthew Sack, Intern	Mid-Atlantic Environmental Law Center c/o Widener University School of Law	September 12, 2005	4 through 14
Thomas Henry	U.S. Environmental Protection Agency; Region III	September 12, 2005	15 through 19
William Meyer	Citizen	November 22, 2005	20 through 25
Gwen Wright	Montgomery County Department of Park and Planning	December 13, 2005	26 through 28

Comments and Responses

1. The commentor states that the documents cite a 75% reduction assumption for domestic sources using certain best management practices (BMPs). The commentor asks if it was based on a comparison with areas with a "poop-scoop" law or without such a law. The commentor further states that if it was based on data from an area without such a law, then the potential domestic source reductions in Montgomery County, which does have this law, may be much less than 75%.

   Response: No, the TMDL was not estimated based on the "poop-scoop" law. The 75% Maximum Practical Reduction "goal reflects uncertainty in effectiveness of urban Best

Management Practices (BMPs) and is also based on best professional judgment" as written on page 32 of the TMDL report, Table 4.7.2. This is based on the following literature: USEPA. 1984. Health Effects Criteria for Fresh Recreational Waters. EPA-600/1-84-004. U.S. Environmental Protection Agency, Washington, DC.

2. The commentor states that the documents should consider cumulative management effects. The commentor continues that it may be more feasible to do more than necessary upstream to meet downstream standards. The commentor suggests that the TMDLs should address this kind of approach and provide the necessary flexibility to implement them.

   Response: Neither the Clean Water Act nor current EPA regulations direct states to develop a detailed implementation plan as part of the TMDL development and approval process. Implementation measures, therefore, are beyond the scope of this process.

3. The commentor states that using the expanded library for classifying samples from Cabin John Creek seems questionable. The commentor continues that the classification success of any set of "difficult to classify data" can be improved if it is averaged with a larger, more consistent set of data. The commentor states that the validity of this approach needs to be addressed.

   Response: Cabin John only had one monitoring station and the study design for Cabin John intended for its known source isolates to be included with at least one other watershed's library in order to establish a library of sufficient size to be of predictive value.

   Furthermore, a statistical analysis was performed on the known-source libraries of each individual watershed first (including Cabin John by itself). Then the library was paired with other watershed libraries one at a time in a systematic fashion to determine what combination of known sources resulted in the highest average rate of correct classification (ARCC). The library with the highest ARCC was then used to predict the sources in the water samples, with the assumption that the bacteria in the water would be predicted at the same high ARCC as were the known sources. For Cabin John, the expanded library was the one that was statistically the best one for predicting sources in the water of that watershed.

4. The commentor states that the proposed TMDL does not include combined sewer overflows (CSOs) or sanitary sewer overflows (SSOs) as potential point sources of pathogen contribution in the point source assessment. The commentor continues that the Cabin John Creek watershed is within a Phase I National Pollution Discharge Elimination System (NPDES) Municipal Separate Stormwater Sewer System (MS4) permit jurisdiction. The commentor further states that CSOs are within the permit jurisdiction of an MS4 permit. The commentor states that CSOs and SSOs must be included in the point source assessment; therefore, the proposed TMDL is inadequate. The commentor finishes with, in the proposed TMDL CSOs and SSOs are incorrectly characterized as nonpoint sources.

   Response: SSOs are "accidents" that should not occur and are difficult to quantify. SSOs are not permitted and, therefore, are not included in the Waste Load Allocation. Currently, there are no CSOs in the Cabin John Creek watershed.

5. The commentor states that seasonal variation has not been fully considered in establishing the proposed TMDL. The commentor continues that the method chosen for including seasonal variation in the TMDL must be described. The commentor further states that there is no specific time of year mentioned; the TMDL states that only that monitoring data contains a year's worth of data under varying conditions. The commentor summarizes that the Cabin John Creek TMDL does not discuss or describe the method chosen for consideration of seasonal variation; therefore, the TMDL is not sufficient.

   Response: MDE is taking this into consideration and revising the TMDL analysis to include seasonal variations.

6. The commentor states that the critical conditions have not been considered as part of the analysis of the TMDL loading caps. The commentor continues that critical conditions must be considered as part of the analysis to determine loading capacity. The commentor further states that critical conditions were accounted for by applying the steady state geometric mean (as explained in the document), but were not considered as part of the loading capacity analysis. The commentor summarizes that this TMDL fails to meet the regulatory requirements of a TMDL.

   Response: MDE is taking this into consideration and revising the TMDL analysis to include critical conditions.

7. The commentor states that there is no explanation of the reasonable assurance that the nonpoint source reductions will occur. The commentor continues that in a water impaired by both point and nonpoint sources, where point sources are given less stringent wasteload allocations based on the assumption that nonpoint source load reductions will occur, reasonable assurance must be explained, stating how the nonpoint reductions will happen. The commentor further states that the nonpoint reductions are briefly mentioned, but not explained in depth. The commentor concludes that this TMDL is inadequate.

   Response: Neither the Clean Water Act nor EPA regulations require states to develop a detailed implementation plan as part of the TMDL development and approval process. Maryland's rationale for not including a detailed implementation plan within the TMDL documentation is to allow flexibility for those other government programs and stakeholders currently developing mechanisms to reduce bacteria loads to Cabin John Creek and other waters of the state.

8. The commentor states that the implementation plan does not account for any future point or nonpoint sources that may enter the watershed. The commentor continues that the proposed TMDL briefly mentioned wildlife growth and management, but does not address other growth of nonpoint sources, such as domestic, livestock or human populations or consider the addition of any new point sources. The commentor recommends that future point and nonpoint sources be taken into consideration when implementation plans are established. The commentor continues that future growth in the community, such as new point sources

and additions to runoff, including, domestic, livestock and human population growth, should be considered with the implementation plan.

Response: Neither the Clean Water Act nor current EPA regulations direct states to develop a detailed implementation plan as part of the TMDL development and approval process. Implementation measures, therefore, are beyond the scope of this process.

9. The commentor states that MDE has done a thorough job of assessing contributing nonpoint sources and using BST to determine contributions of the pollutant.

   Response: Thanks.

10. The commentor states that for TMDL analysis, there is difficulty in simulating bacteria in water quality models. The commentor continues that there is also difficulty in estimating bacteria sources due to the number of assumptions made and the limited data available. The commentor further states that these difficulties should be incorporated into the TMDL through use of the Margin of safety (MOS). The commentor maintains that it is not clear from the TMDL how conservative the included implicit MOS is. The commentor recommends that to account the difficulty in simulating the bacteria, the MOS should be even more conservative.

    Response: TMDLs are required to include a MOS to account for uncertainties in a manner that is conservative toward protecting the environment. There are no strict guidelines or methodologies provided by the EPA for selecting a MOS, except to suggest that a MOS may be an explicit value held aside or conservative assumptions built into the analysis. The margin of safety proposed in this TMDL analysis is based on other TMDLs approved by EPA and was adopted in consideration of built-in conservative assumptions of the analysis. The MOS for the TMDL was selected with the understanding that the analysis and the MOS may be revised in the future as better information comes available.

11. The commentor states that the TMDL loading cap is based on a long-term geometric mean, not literal daily limits. The commentor, referencing Table 4.6.1, the baseline load and TMDL load are expressed in terms of daily numbers. The commentor states that this creates confusion as to what the actual unit of measure is for the long-term geometric mean used to estimate loading caps.

    Response: The TMDL daily average load must be met by any given period (*i.e.,* 30-day period, seasonally, or yearly, etc.). The TMDL loading cap is based on a long-term geometric daily term, Most Probable Number (MPN)/day.

12. The commentor, referencing page 24, states that for the purpose of TMDL analysis and allocations, unknown sources were removed and known sources were scaled proportionally to reach 100%. The commentor continues that this allows contributions from the unknown sources to remain in the total waste load, while the scaled known sources will be given an inflated percentage. The commentor further states that this will then allow the inflated unknown sources to remain at a high level and allow for more contribution after reduction.

The commentor asserts that the way it is set up any addition of an unknown source to the load will automatically violate the TMDL because the proposed TMDL does not leave room for unknown sources. The commentor ends with the conservative MOS is not enough to remedy this problem because even though the source of the pollutant is unknown, the fact there is additional unknown source is known.

Response: The goal of the Bacteria Source Tracking is to estimate the four sources with high probabilities in one category: domestic (pets and human associated animals), human (human waste), livestock (agricultural animals), and wildlife (mammals and waterfowl). There were some samples that were sampled that had high probability for all sources. These were assigned as Unknown Sources. When the unknown sources are removed, the known sources were scaled proportionately upward, which would include the unknown sources.

13. The commentor commends MDE on its analysis of the maximum practicable reduction targets.

    Response: Thanks.

14. The commentor states that the MOS is implicit and not specific as a separate term. The commentor continues that when the MOS is implicit, the conservative assumptions and the analysis of the MOS must be explained. The commentor asserts that there is no explanation regarding the MOS in the proposed TMDL and therefore, the TMDL is inadequate.

    Response: In Section 4.5, the implicit MOS is explained.

15. The commentor is concerned that the following TMDL requirements are not being met by this TMDL: the TMDLs are designed to implement the applicable water quality standards; the TMDLs consider critical environmental conditions; the TMDLs consider seasonal environmental variations.

    Response: MDE is taking this into consideration and revising the TMDL analysis to include applicable water quality standards, seasonal variations and critical conditions.

16. The commentor states that the Designated Uses and Water Quality Standard section in the draft TMDL 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 TMDL began on August 12, 2005. The water quality standards that were applicable at the time of the public comment period were noted in the TMDL document. Since the "new" standards have been approved, the document will be revised to reflect the new criteria.

17. The commentor states that the draft TMDL 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.

Response: MDE is taking this into consideration and revising the TMDL analysis.

18. The commentor presents a table of a number of calculations of geometric means "demonstrating the effects of ignoring seasonal and/or critical environmental conditions". Based on their calculations, Cabin John Creek does not meet its designated use during the critical period, Memorial Day through Labor Day. The commentor continues that the draft report does require a reduction in fecal bacteria loads from the basin but the approximately 40% reduction appears unlikely to achieve water quality criteria during the critical period. It should be noted that the rolling geometric appear more sensitive to changing conditions and should be used for comparison with the criterion. As a result, EPA would be unable to approve the Rock Creek (sic) Bacteria TMDL report as written.

    Response: MDE is taking this into consideration and revising the TMDL analysis.

19. 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: After the completion of the TMDL, all actual calculations will be provided.

Comments from the Second Public Comment Period

20. The commentor states that the maps on page 11 and 13 are not accurate regarding watershed boundaries and land use in Rockville.

    Response: The location and land use maps are for general reference only and are of sufficient resolution for this purpose. Watershed boundaries and land use are based on the Maryland Department of Natural Resources' 8-digit basin coverage and the Maryland Department of Planning's 2002 land use coverage, respectively. The boundaries are believed to be accurate.

21. The commentor referencing Figure 2.1.1, states that the area roughly North of Route 28 especially the Rockville downtown area currently undergoing redevelopment drains into the Rock Creek basin. The commentor states that the map depicts the sanitary sewer drainage but not the stream drainage.

    Response: A map depicting stream drainage in the Cabin John Creek watershed is unnecessary, as it would have no effect on the development of the non-tidal bacteria TMDL.

22. The commentor refers to Figure 2.1.3, stating that the main branch of Cabin John Creek continues toward the downtown area at the jog that the map has leading to the New Mark Commons lake. The commentor also states that there is forested parkland along this branch and the map does not show the large Dogwood park located just downstream of this jog. The

commentor continues that the large forested area where the main branch and Northeast tributary run parallel is the Tower Oaks CPD. The commentor states that there are already two large office buildings and a Clydes Restaurant in this area. The commentor continues that several more office buildings in this CPD are in the permitting process in Rockville. The commentor states that also missing is the Northwest tributary leading from the county detention center on the other side of I-270. The commentor continuing to refer to Figure 2.1.3, states that the Woodmont Country Club should be much more than the small green triangle near SR355. The commentor continues that other than the clubhouse, there is no commercial activity on the Woodmont site and there is no residential.

Response: The land use depicted in Figure 2.1.3 is for general reference only and based on the Maryland Department of Planning's 2002 land use coverage. The coverage supplies sufficient resolution for this purpose.

23. The commentor states that the City of Rockville is currently reviewing its Stormwater Management (SWM) programs looking to enhance what is already a well-managed SWM program. The commentor asks since the state is using only the one sampling station (CJB0005) located near Glen Echo, how will Rockville be credited with the effort that it is making in comparison to what Montgomery County does?

    Response: Implementation is not required as part of the TMDL developmental process under the Clean Water Act. Credits for improvement in stormwater management programs falls under implementation and is therefore, beyond the scope of this process.

24. The commentor asks if the sources with the largest impact on water quality have been identified by MDE. The commentor also asks if any are within the city limits of Rockville.

    Response: In the TMDL analysis a distribution of sources amongst wildlife, domestic, human and livestock categories is defined for the entire watershed. The source category with the highest contribution would have the largest impact on water quality. Specific locations of sources are not identified; therefore it is unknown whether they fall within the city limits of Rockville.

25. The commentor asks if there has been any consideration by MDE to establish another sampling station in the Cabin John watershed. The commentor continues that relying on only one sample point to paint a wide-ranging estimate of a problem may be cost-effective but can lead to unnecessary costs that have little benefit.

    Response: There is no plan to establish another monitoring station in Cabin John Creek watershed. The single station defines the cumulative bacterial load of the entire watershed on which the TMDL is based. In addition, regulations suggest the use of best readily available data and require to develop TMDLs in a timely manner.

26. The commentor states that the documents cite a 75% reduction assumption for domestic sources using certain best management practices (BMPs). The commentor asks if it was

based on a comparison with areas with a "poop-scoop" law or without such a law. The commentor further states that if it was based on data from an area without such a law, then the potential domestic source reductions in Montgomery County, which does have this law, may be much less than 75%.

Response: Please see the response to Comment #1.

27. The commentor states that the documents should consider cumulative management effects. The commentor continues that it may be more feasible to do more than necessary upstream to meet downstream standards. The commentor suggests that the TMDLs should address this kind of approach and provide the necessary flexibility to implement them.

    Response: Please see the response to Comment #2.

28. The commentor states that using the expanded library for classifying samples from Cabin John Creek seems questionable. The commentor continues that the classification success of any set of "difficult to classify data" can be improved if it is averaged with a larger, more consistent set of data. The commentor states that the validity of this approach needs to be addressed.

    Response: Please see the response to Comment #3.