

Comment Response Document
Regarding the Total Maximum Daily Loads of Fecal Bacteria for the Lower Monocacy River Basin
in Carroll, Frederick, and Montgomery Counties, 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 Lower Monocacy River Basin. The public comment period was open from August 3, 2007 through September 4, 2007. MDE received 2 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
Mark A. Schweitzer	Frederick County Utilities and Solid Waste Management Division	August 16, 2007	1 through 6
Shannon Moore	Frederick County Division of Public Works, Watershed Management Section	September 4, 2007	7 through 11

Comments and Responses

1. Citing Table 2.4.2, p. 24 of the TMDL document, the commentor states that the annual average flow for the Reich's Ford Landfill Leachate Plant is incorrect. The commentor points out that it is not apparent from this table during what timeframe these flow values were obtained, but the flow from this facility is significantly less than indicated (0.716 MGD). The commentor states that the annual average flow values from this facility have been 0.076 MGD for 2004, 0.080 MGD for 2005, and 0.069 MGD for 2006.

Response: The flow data was reviewed and there was an error in calculating the average flow for the Leachate Plant. It has been corrected and it is within the range stated by the commentor. The flows and loads presented in Table 2.4.2 are for informational purposes only and therefore the error did not affect the TMDL analysis.

2. The commentor states that the Division also has concerns regarding the values indicated for Fecal Coliform Average Annual Concentrations (MPN/100ml) for Frederick County DUSWM facilities, which all have a fecal coliform limit of 200 MPN/100 ml monthly log mean average specified in their NPDES discharge permits. The only exception being the Ballenger Creek WWTP, which began testing for *E. coli* on 1/1/07 with the issuance of a revised discharge permit. Since these facilities have a permit limit of 200 MPN/100ml, the Division's laboratory only enumerated fecal coliform values down to 20 MPN/100ml. Since this value was one-tenth of the permit value, it was deemed more than sufficient to comply with the monthly log mean average of 200 MPN/100ml specified in the permits. Values

determined to be under the reporting limit of 20 MPN/100ml were calculated in the monthly log mean average as 20 MPN/100ml. Because of this, the commentor states, the Division feels that the values assigned to these facilities [in the TMDL report] do not accurately reflect the actual concentrations of fecal coliform discharged.

Response: The TMDL allocations assigned to WWTPs are given using the organism *E. coli* that the State of Maryland has adopted as a fecal bacteria indicator for NPDES permits. The County should continue the current fecal coliform testing for WWTPs with fecal coliform permits still current. In the future, when those permits are due for renewal, the new permit limits will reflect the newly adopted *E. coli* and their corresponding TMDL allocations, if any.

3. The commentor states that the wastewater treatment facilities are unfairly being designated as a significant source of fecal coliform loading based on a parameter testing protocol that has existed for many years, which is not intended to provide the level of accuracy needed to calculate pollutant loading. The commentor concludes that this results in a larger waste load allocation for wastewater treatment facilities than they are in fact responsible for.

Response: WWTPs are not being designated as a significant source of fecal coliform. Most WWTP discharges are well below the permit limits for bacteria. Therefore, the bacteria loads from WWTPs are below allowable loads and WWTPs are not assigned bacteria reductions in the TMDL. Allocating a larger load that is allowable and will not impair the waterbody does not indicate that WWTPs are significant sources of fecal bacteria.

4. The commentor states that it is not apparent, nor is it referenced elsewhere in the text, how Fecal Coliform Loads per Day (Billion MPN/day) are calculated. Using data for Ballenger Creek WWTP as an example, the commentor states that a volumetric proportion using average annual flow and average annual fecal coliform concentrations, one would expect a daily load of 3.915 Billion MPN/day and not the 5.935 value indicated. The commentor adds that the methods used to calculate this value should be presented in detail so that they can be verified.

Response: An explanation of how the maximum daily loads for WWTPs are estimated can be found in Appendix D (Page D8) in the Section entitled "*Selected Approach for Defining Maximum Daily Loads for Other Point Sources.*"

5. The commentor references Bacteria Source Tracking text on p. 26 of the TMDL report and states that, because the fate of antibiotics in our waterways has yet to be ascertained and their impact upon the environment studied, the Division questions the validity of utilizing an antibiotic resistance method to determine the source of fecal organisms. The commentor continues, stating that the use of an antibiotic resistance procedure raises questions regarding the use of established resistance patterns. The commentor asks: Is an antibiotic resistance pattern established for one geographic region applicable to another? Furthermore, how will changes in the population's antibiotic use alter these resistance patterns?

Response: The BST methodology used to identify sources of fecal bacteria for TMDL analysis purposes does not need to take into account the fate of antibiotics or their impact to waterways. It is beyond the scope of a fecal bacteria TMDL analysis. Bacteria develop resistance to antibiotics and other substances inside the “host” (i.e., warm blooded animals) and this resistance is used to identify from which type of animal (i.e., human, pets, livestock or wildlife) the bacteria in the water comes. Antibiotic resistance analysis is a well-established scientific BST method. MDE analyzes scat from each particular watershed and libraries of antibiotic resistance patterns are established for each watershed under study. MDE does not apply the antibiotic resistance pattern of one particular region to another. Bacteria source tracking is performed for each watershed.

For each TMDL developed now or in the future, bacteria sampling is performed at the same time as sampling for BST analysis; therefore, changes in the population’s antibiotic resistance will be reflected in both the water samples and the BST library’s bacteria.

6. The commentor references Table 4.9.2, p. 54 of the TMDL report, stating that it is not apparent how WWTP WLA values are determined for each station. There does not seem to be any correlation with the values found on Table 2.4.2. The values in Table 2.4.2 are expressed using a fecal coliform value while values here are expressed as *E. coli*. The commentor states that it would be helpful to indicate which WWTP facilities are included with each station and a brief description of how the historical fecal coliform monitoring was utilized to establish *E. coli* based WLA.

Response: The values found in Table 2.4.2, expressed using fecal coliform, are presented only as information on the current performance of the facilities and are not intended to correlate to the values found in Table 4.9.2. A brief description of how the values in Table 4.9.2 were calculated has been added to the TMDL report. In brief, the TMDL allocations for WWTPs are estimated using the maximum design flow of the plant and the *E. coli* criterion of 126 MPN/100ml.

7. The commentor references page 51 of the document where the WLA for wildlife sources “will be distributed between the LA and the Stormwater WLA, based on a ratio of the amount of pervious non-urban and pervious urban land.” The commentor continues that NPDES Municipal Separate Storm Sewer System Permits cover urban discharges from urban land uses only. These permits have no control over wildlife sources of bacteria from a regulatory perspective and the wildlife load should not be allocated to the Stormwater WLA.

Response: Wildlife can exist anywhere in a watershed (e.g., rats in urban areas). TMDL allocations represent allowable loads, from any kind of source, which entities (e.g., WWTPs, urban areas with MS4 permits) can discharge into a waterbody without causing water quality impairments. In addition, neither Maryland nor EPA is proposing the elimination of wildlife to allow for the attainment of water quality standards, although managing the overpopulation of wildlife remains an option for state and local stakeholders. See Section 5, Assurance of Implementation, last paragraph. See also the following response to comment #8.

8. The commentor references page 51 of the document, which states that, “Based on EPA's guidance, the Stormwater WLA is presented as one combined load for the entire land area of each county.” The commentor notes that the NPDES Stormwater permits only regulate urban discharges from urban land. The proportion of urban discharges in urban land in each County is different and this would affect the urban load proportions for each county apportioned from the whole.

Response: The entire Lower Monocacy River watershed is covered by three NPDES Phase I MS4 permits: MD0068331 (Carroll County); MD0068357 (Frederick County); and MD0068349 (Montgomery County). MS4 permits cover the entire jurisdictions and therefore stormwater loads are assigned to all the area in the watershed within the particular jurisdiction. In watersheds located in more than one jurisdiction with stormwater permits, the stormwater WLA is distributed based on the percentage of the watershed area in each county. In addition, for this particular watershed, the distribution of the stormwater load between counties only applies to the TMDLs in subwatersheds SAM0001 (Sam’s Creek) and LPC0032sub (Little Pipe Creek downstream of junction with Sam’s Creek), each of which have areas in two counties. The population density in the area of both counties within those two subwatersheds is the same; therefore, allocation by percentages of total area, not by percentages of urban land area, is appropriate.

9. The commentor asks: Since MDE is proposing a TMDL that it states can not be met (“[I]n four out of the six subwatersheds, it was estimated that water quality standards could not be attained with the MPRs”), is it [MDE] proposing to spearhead the effort to develop a Maximum Practical Reduction? The commentor asks will this be part of a Use Attainability Analysis? The commentor also asks what level of effort is MDE expecting from Frederick County Government to establish the MPR?

Response: The reductions in fecal bacteria loads necessary to meet water quality standards in the Lower Monocacy River watershed can not be achieved by implementing effluent limitations and cost-effective, reasonable BMPs to nonpoint sources. Therefore, MDE proposes a staged approach to implementation, beginning with the maximum practicable reduction scenario outlined in the TMDL report, with regularly scheduled follow-up monitoring to assess the effectiveness of the implementation plan. Thus, the MPRs do not initiate a Use Attainability Analysis, but rather the first stage of a long-term implementation process. MDE’s TMDL Implementation Guidance document (2006) envisions TMDL implementation as a partnership between State and local governments, with the local jurisdictions taking the lead in making informed policy decisions and managing relevant programs, and also acquiring the capacity to develop and execute implementation policies and procedures with the guidance, oversight and available resources of the appropriate State agencies.

10. The commentor asks: what Best Management Practices are acceptable to MDE for fecal coliform reduction from urban sources? The commentor also asks if there is a list.

Response: Please see the MDE article on the sources of fecal bacteria pollution and ways to address this problem, in both urban and rural areas:

<http://www.mde.state.md.us/ResearchCenter/Publications/General/eMDE/vol2no7/fecalpollution.asp>

11. The commentor states that the way that this TMDL is written, it is difficult for the County to ascertain its responsibility and monitor the success of Best Management Practices at meeting the WLA. The County is concerned with the legal implications of this TMDL, especially the potential for third party lawsuits. Regulatory requirements are not in place for the agricultural “non-point” sources of pollution in the LA and the watersheds will likely continue to show an excess of fecal coliform bacteria despite the implementation of Best Management Practices on urban land.

Response: MDE advises that the counties in the watershed begin to develop an implementation plan, building on their water quality management programs and any existing restoration and/or remediation efforts in the watershed. Any such programs and activities should be formally tracked and recorded for potential credit towards achieving TMDL implementation goals. The State will work with local jurisdictions to evolve a framework for implementing the TMDL through a set of programs, policies, and best management practices, including monitoring to track success in achieving required reductions.