

**Comment Response Document
Regarding the Total Maximum Daily Loads of Fecal Bacteria for the Upper Monocacy River Basin
in Carroll and Frederick 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 Upper Monocacy River Basin. The public comment period was open from August 20, 2007 through September 18, 2007. MDE received one set 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 22, 2007	1 through 6

Comments and Responses

1. Citing Table 2.4.2, p. 23 of the TMDL document, the commentor states that the Crestview WWTP (01-DP-0672, MD0022683) has been omitted from the discussion of wastewater treatment plants and not included in the table. The commentor notes that the WWTP is located just north of the White Rock WWTP on Quail Knob Lane and discharges into Muddy Run.

Response: The Crestview WWTP has been added to the analysis and the TMDL has been revised accordingly.

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. It is appropriate for the County to continue the current fecal coliform testing for the WWTP with fecal coliform permits still current. In the future, when those permits are for renewal, the new limits will reflect the newly adopted *E. coli* and their corresponding TMDL allocations.

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 on 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.

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 activities 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 was 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.