

**Comment Response Document**  
**Regarding the Total Maximum Daily Loads of Fecal Bacteria for the Non-tidal Anacostia River Basin in Montgomery and Prince George's 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 Non-tidal Anacostia River. The public comment period was open from August 5, 2005 through September 6, 2005. MDE received six sets of written comments.

Due to several comments the Department received, the referenced TMDL document was revised and made available for a second public comment period. The public comment period was open from March 20, 2006 to April 18, 2006.

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 responses.

**List of Commentors**

<b>Author</b>	<b>Affiliation</b>	<b>Date</b>	<b>Comment Number</b>
Chris Akinbobola	Prince George's County Environmental Services Division	August 5, 2005	1 through 4
Thomas M. Arrasmith	Anacostia Watershed Citizens Advisory Committee (District of Columbia) 89	August 25, 2005	5 through 8
Melanie Shepherdson; Diane Cameron; Brian Van Wye; Robert Boone; Neal Fitzpatrick; Doug Siglin	Natural Resources Defense Council; Anacostia Riverkeeper at Earth Conservation Corps; Anacostia Watershed Society; Audubon Naturalist Society; Chesapeake Bay Foundation	September 1, 2005	9 through 27
Andrew Fellows	Clean Water Action	September 6, 2005	28 through 31
Mayor Bob McGrory	Town of Bladensburg	September 6, 2005	32 through 34
Thomas Henry	U.S. Environmental Protection Agency; Region III	September 6, 2005	35 through 50
Nicoline Shulterbrandt; Monir Chowdhury	DC Environmental Health, Water Quality Division	April 14, 2006	51
Melanie Shepherdson; Neal Fitzpatrick; Robert Boone; Betsy Johnson;	NRDC; Audubon Naturalist Society; Anacostia Watershed Society; Sierra	April 17, 2006	52 through 55

Author	Affiliation	Date	Comment Number
Cynthia Scurlock; Bill Howard; Bruce Sidwell	Club; Town of Capitol Heights; Neighbors of Northwest Branch; Friends of Sligo Creek		
Frank L. Wise	Prince George's County Environmental Health Admin.	April 18, 2006	56-58
Robert Boone, James Connolly; Masaya Maeda	Anacostia Watershed Society	April 18, 2006	59-62

### Comments and Responses

1. The commentor states that the TMDL has been developed solely based on a one-year monitoring data collected between November 2002 and October 2003 at six different sites within the watershed. The monitoring program was conducted twice a month with a total of twenty-four samples for each site. The commentor asks how can we be sure that this one-year of data is fully representative of the long-term water quality conditions of the watershed.

**Response:** As explained in the TMDL report, bacteria occur in concentrations that vary widely and estimating loads of constituents that vary sometimes by orders of magnitude can introduce many uncertainties. The one-year monitoring period for the non-tidal Anacostia River TMDL analysis covers all the seasons, and the analytical methodology applied, when combined with the bacteria source tracking (BST), provide reasonable results without the need of expensive and time consuming longer monitoring periods. In addition, 2003 was a wet year that represents a conservative assumption in the analysis. Furthermore, 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.

2. The commentor states that the one-year sampling program did not include any storm event monitoring. The commentor continues that this may be a significant problem because the bacteria levels for storm events is much higher than those for the "non-storm" samples. The commentor states that the U.S. Geological Survey (USGS), U.S. Environmental Protection Agency (EPA), MDE and Prince George's County have so far collected more than one year on bacteria samples for various storm events. The commentor recommends using this information in the development of this TMDL.

**Response:** As shown in Figures B-3 to B-8 of the report, for all 6 bacteria monitoring stations in the non-tidal Anacostia River, approximately 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. The bacteria data collection by USGS and Prince George's County began in October 2003. By the time these data were analyzed and QA/QC, the TMDL had been developed.

3. The commentor states that a more scientific-sound approach for developing a TMDL is to conduct a detailed modeling analysis using the collected water quality data to calibrate the model, and then simulate a long-term (ten years) water quality time series. With this approach, a better watershed characterization can be achieved. It is the commentor's understanding that MDE conducted an HSPF-based modeling effort for this watershed a few years ago and asks if that model is still available.

**Response:** As explained in the TMDL report (Section 4.2), MDE acknowledges the inherent uncertainty in developing traditional water quality models for the calculation of bacteria TMDLs for the reasons explained 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.

The HSPF model of the non-tidal Anacostia River was developed by the Interstate Commission on the Potomac River Basin (ICPRB) on behalf of MDE primarily to help better estimate nutrient, sediment, and BOD loads in support of the ongoing development of DC's TMDLs in the tidal Anacostia River. The model was not developed to support fecal bacteria TMDLs. The model represents the fate and transport of dissolved oxygen, nutrients, and sediment in the Northwest Branch, Northeast Branch, and Lower Beaverdam Creek.

4. The commentor states that this TMDL calls for a 98% reduction of the bacteria loads. The commentor continues that this is a goal that cannot be achieved, particularly because most of the pollutant sources are not coming from human activities. The commentor asks how can an implementation plan be realistically developed and carried out.

**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.

5. The commentor states that the District's (of Columbia; DC) fecal bacteria TMDL was approved by EPA in 2003. The commentor references Table 4.7.5, noting that it appears that the State's proposed TMDL significantly exceeds the DC allocation for Maryland's portion of the river and will prevent the attainment of the District's use of the Anacostia as a swimmable river.

**Response:** The TMDLs developed by DC and MD were both based on EPA proposed health risk (EPA has estimated that fecal-coliform bacteria concentrations of 200 bacteria/100 ml

would cause 8 illnesses per 1,000 swimmers at fresh water beaches). Please also note that loads reductions for both TMDLs (MD and DC) are very similar.

6. The commentor states that the proposed TMDL applies only to the non-tidal portion of the river and should be extended to the Maryland/DC line. The commentor continues that the District has a fully calibrated EPA approved model of the tidal portion of the river available, with training, which MDE can use to accomplish this.

**Response:** The document version reviewed by the commentor has been revised to include the Maryland tidal portion, address critical conditions, and meet D.C. standards. The revised document was made available for another public review period. The D.C. TMDL was the basis of the tidal TMDL in the revised document.

7. The commentor, referencing Table 4.8.2, states that the TMDL is allocated to watersheds and that the allowable loads should be distributed to Montgomery and Prince George's Counties and included in their Municipal Separate Storm Sewer System (MS4) permits.

**Response:** MDE is nearly finished issuing all Phase I municipal stormwater permits in Maryland for the third time. TMDL language has been included in these since the third round began in Fall 2004. Prince George's County's storm drain system permit was reissued in October 2004 and included language addressing waste load allocations developed under TMDLs in all County waters. Montgomery County's permit is currently being negotiated and language identical and consistent to all other permits has been drafted for inclusion.

8. The commentor states that there is no implementation plan. The commentor states that there should be a "Watershed TMDL Waste Load Allocation Implementation Plan" required of each County similar to that established for the District and approved by EPA.

**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 commentors state that the geographic scope and assumptions underlying the draft TMDL will not ensure that water quality standards will be met. The commentors assert that the entire Maryland portion of the Anacostia watershed must be included in the TMDL. The commentors further state that MDE omitted two subwatersheds, Lower Beaverdam Creek and the tidal Anacostia (from Bladensburg to the DC line) from the draft TMDL. The commentors state that MDE must include these watersheds or if it is impracticable to do at this time, then MDE must provide a date when it will complete a TMDL for these watersheds either as a supplement to this TMDL or as a separate TMDL. The commentors continue that MDE must describe with as much detail as possible, the likelihood that an Anacostia TMDL for the lower Maryland subwatersheds will make it necessary to revise its Northeast and Northwest Branch TMDL for bacteria.

**Response:** See Response to Comment #6.

10. The commentors state that MDE must revise the draft TMDL to meet all applicable DC standards at the Anacostia's DC boundary line.

**Response:** See Response to Comment #6.

11. The commentors state that the Margin of Safety is inadequate.

**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.

12. The commentors state that critical conditions are not addressed in the TMDL.

**Response:** See Response to Comment #6.

13. The commentors state that bacteria regrowth and residence time in the lower river must be considered. The commentors continue that the long residence time (30 to 35 days) that the Anacostia is more sensitive to large bacterial pollutant loadings than a faster- flushing river such as the Potomac River.

**Response:** The TMDL allocation for the lower river was derived from DC's allocation to Maryland. All technical issues considered in DC's analysis are therefore incorporated into this allocation. Please refer to DC's fecal bacteria TMDL for the Anacostia River for more information.

14. The commentors state that the TMDL must account for future growth.

**Response:** In developing a TMDL, MDE accounts for pollutant inputs from all sources, including discharges from industrial plants and sewage treatment facilities, from urban areas, and natural sources; but as stated in the report, the allocations needed to meet bacteria water quality standards in the Anacostia River are very strict and reductions from baseline loads are very high for all sources. One way to account for future growth in the TMDL is by using the maximum flow design capacity of the wastewater treatment facilities. Any future growth in the watershed should occur in the remaining land that can still be developed within the watershed and this land is limited. It is expected that any future growth should happen by convert some of the remaining agricultural, which accounts only for approximately 5% of the total land into commercial and residential land uses. It is not expected that forest land would be developed. In addition, the TMDL per se – as required under the Clean Water Act- are irrespective of changes in land use, loadings, etc. A TMDL is the assimilative capacity of the waterbody.

15. The commentors state that MDE's practicable reduction analysis is flawed. The commentors further state that MDE's intent to substitute goals of practicable reduction for the TMDL is not acceptable. The commentors state that while they understand and appreciate that some sources are currently easier to control and reduce than others, the timing and benchmarks established in an implementation plan are the appropriate place for these assumptions about practicality, not the setting of the TMDL itself. The commentors also disagree with the values MDE selected as maximum practicable reduction targets, particularly with MDE's selection of 0% for wildlife. The commentors state that bacteria from wildlife can be reduced through population control measures and creation or expansion of stream buffers.

**Response:** It is not the intention of MDE to substitute goals of practicable reduction for the TMDL. As explained in Section 4.2.6 of the report, the maximum practicable reductions (MPRs) used in the first TMDL scenario are not in any way setting the TMDL itself. These MPRs were used as reduction limits to develop a practicable reduction scenario as the first step in the TMDL development. If the stream does not meet water quality standards with this "practicable reduction" scenario, a second scenario with higher reductions than MPRs sets the TMDL.

As explained in the TMDL report, the MPR values are based on a review of available literature and best professional judgment. MDE also explains in the Assurance of Implementation section of the report that managing wildlife remains an option for state and local stakeholders.

16. The commentors state that bacteria from wildlife threaten human health.

**Response:** MDE acknowledges that bacteria from wildlife sources can present a human health risk. However, the document cites literature indicating that waters contaminated by wildlife wastes present a public health risk orders of magnitude less than that associated with human waste.

17. The commentors state that MDE must consider public input in setting the TMDL. The commentors also request a formal public hearing on the proposed Bacteria TMDL for the Anacostia.

**Response:** MDE recognizes the importance of public participation in the development of TMDLs and goes beyond the minimum regulatory requirements to promote public involvement. In MDE's written materials and oral presentations, staff clearly solicit the proactive participation of anyone who wants to be involved in the technical aspects of the TMDL development process. In the present case, MDE has conducted a number of meetings with stakeholders in the Anacostia River Basin. These meetings included presenting information to the Middle Potomac Tributary Team Members, Anacostia Stakeholder Group, and County and Municipality staff. In addition, stakeholders who have identified themselves as interested parties have received information as the projects progressed.

In addition to giving ample advanced notice of the TMDL development schedule and opportunity for interested stakeholders to engage the process, MDE conducted the required

public notice of the draft TMDL. As part of the formal public review process, MDE conducted a direct mailing to interested parties, including the organizations requesting the extension. In view of the substantial public efforts described and the willingness of MDE to consider proposing changes to the TMDL based on findings of future independent reviews, MDE has denied the request for a public hearing on the drafts of the document. A public informational meeting was held during the second public comment period to go over the document's contents. The commentors were in attendance at that informational meeting.

18. The commentors state that MDE should make the baseline data and analyses available in advance of public comment period.

**Response:** See Response to Comment #17. Much of this information that the commentor is referring to is presented at the stakeholder meetings.

19. The commentors state that the water quality-monitoring database that the Anacostia Watershed Society submitted to MDE in 2004 must be fully incorporated into this TMDL and requests that this be done.

**Response:** The data submitted by the AWS in 2004 did not include enterococci data, only fecal coliform and *E.coli* data. Maryland's TMDL was based on the indicator organism enterococci. In 2005, AWS submitted additional data that included some enterococci sampling. Unfortunately, it was too late in the TMDL development process to be used in the analysis. However, because the 2005 data had pair samplings of fecal coliform and enterococci, MDE used the data to validate the correlation analysis previously done between fecal coliform and enterococci that was used to convert DC's fecal coliform TMDL into a enterococci based TMDL. The results of the correlation analysis with the AWS data were very similar to those of the previous analysis, validating the correlation coefficient used for the conversion.

20. The commentors state that MDE must include an implementation plan with this TMDL.

**Response:** See Response to Comment #8.

21. The commentors state that Montgomery and Prince George's Counties should document current reductions from different mitigation features, such as stormwater management ponds. The commentors continue that the counties should be required to monitor the bacteria reductions incurred that are provided by stormwater management ponds. The commentors state that this monitoring should be done through the Counties' MS-4 permits.

**Response:** An entire monitoring effort, honed over 15 years of experience, is geared toward determining BMP effectiveness assessment. Prince George's and Montgomery Counties collect bacteria data as part of this effort.

22. The commentors state that there should be focus on pet waste pollution. The commentors also state that serious attention to implementation steps to achieving the target reductions is warranted and these steps should be translated in to enforceable benchmarks and milestones

in the next MS-4 permit renewals for Montgomery and Prince George's Counties. The commentors have also made recommendations in the areas of education, enforcement, and funding the pet waste program.

**Response:** Each County has a program for pet waste pollution control. These programs are typically education driven and MDE believes this approach to be appropriate.

23. The commentors state that wildlife waste can be reduced and must be to protect aquatic life as well as human health.

**Response:** See Response to Comments #15 and #16.

24. The commentors state that riparian buffers can act as bacterial pollution filters. The commentors further state that throughout Montgomery County there is a lack of riparian buffer forest protection during and after residential developments.

**Response:** This issue should be discussed during the Implementation Plan development process. See also Response to Comment #8.

25. The commentors state that there needs to be retrofits to existing BMPs.

**Response:** This issue should be discussed during the Implementation Plan development process. See also Response to Comment #8.

26. The commentors state that low impact development (LID) and better site planning have potential as important bacteria loading reduction techniques. The commentors suggest that MDE work closely with the two counties to integrate the work they are already doing on the LID front as part of the implementation plan for this TMDL, and to include specific pollutant reduction benchmarks and milestones that utilize LID and better site design, in their upcoming, and subsequent future, MS-4 permits.

**Response:** This issue should be discussed during the Implementation Plan development process. See also Response to Comment #8.

27. The commentors state that Montgomery and Prince George's Counties MS-4 permits must evolve to implement this TMDL. The commentors cite the MS-4 stormwater permit issued to the City of Portland, Oregon as an example of permit language that reflects the "adaptive management" approach to defining TMDL-driven stormwater program responsibilities, including pollutant reduction benchmarks and program revision duties.

**Response:** To the extent that Portland, Oregon's permit uses "benchmarks" to track progress toward meeting waste load allocations, and, that these benchmarks are considered "...not numeric effluent limits", MDE believes Prince George's and Montgomery Counties and all other localities' permits parallel the iterative, maximum extent practicable approach to addressing TMDLs supported by EPA and reflected in the cited permit.

28. The commentor states that Maryland's TMDL should be at least as protective as the District's fecal bacteria TMDL, approved by EPA in 2003. The commentor further states that a less protective standard for Maryland would send a powerful message to federal regulators and the public that Maryland has less concern than the District for restoring the Anacostia to swimmable and fishable standards.

**Response:** See Response to Comment #6.

29. The commentor states that Maryland's TMDL for the Anacostia should cover the tidal and non-tidal portions of the watershed. The commentor continues that the proposed TMDL applies only to the non-tidal portion of the river and should be extended to the MD/DC line. The commentor further states that the District has a fully calibrated EPA approved model of the tidal portion of the river available, with training, which MDE can use to accomplish this.

**Response:** See Response to Comment #6.

30. The commentor stated that, as discussed in the September 1, 2005 meeting (with the Anacostia Watershed Society and others), load limits should be distributed to Montgomery and Prince George's Counties to facilitate the implementation plan of containing pollution through the county permit processes.

**Response:** See Response to Comment #8.

31. The commentor states that it would be helpful to reference the schedule of other Anacostia TMDLs and encourages the development of "Watershed TMDL Waste Load Allocation Implementation Plans" for Montgomery and Prince George's County.

**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.

MDE has provided the schedule for the TMDL efforts in the past. MDE has offered help in developing implementation plans, and believes implementation is best being done at a local level to allow for flexibility. MDE has discussed these issues several times during the stakeholder meetings, and will not be taking the lead on the effort.

32. The commentor states that the TMDL process must be comprehensive, and must include the tidal portion of the river near the Bladensburg Waterfront Park, as well as all of the tributaries. The commentor continues that it seems illogical to model certain sections of the river for bacteria loads, while excluding other sections until a future date. The commentor urges MDE to look at this watershed as a whole, and include all of the Maryland water sooth Anacostia River in this current TMDL.

**Response:** See Response to Comment #6.

33. The commentor states that this TMDL effort must be coordinated with the District of Columbia's TMDL process. The commentor continues that the river does not obey political boundaries, and neither do the pollutants in the waters. The commentor further states that if we are serious about restoring the Anacostia River, then it must be done on a watershed-wide basis.

**Response:** See Response to Comment #6.

34. The commentor states that the TMDL process will be ineffective if an implementation plan is not created and enforced by MDE. The commentor further states that without this plan, the TMDL document will be placed on another shelf, waiting for dust to cover it. The commentor continues that with the Chesapeake Bay experiencing a record-level dead zone this year, the time has come for us to take serious action in the tributaries to reverse the damage. The commentor states that this bacteria TMDL for the Anacostia River is a great place to start.

**Response:** See Response to Comment #8.

35. The commentor is concerned that the following TMDL requirements are not being met by this TMDL: 1) the TMDLs are designed to implement the applicable water quality standards; 2) the TMDLs consider critical environmental conditions; 3) the TMDLs consider seasonal environmental variations.

**Response:** See Response to Comment #6.

36. 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 5, 2005. The water quality standards that were applicable at the time of the public comment period were noted in the TMDL document. The "new" standards were approved and the document was revised to reflect the new criteria. See also Response to Comment #6.

37. 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. In addition, the commentor presents a table of geometric mean calculations from MDE's Piscataway Creek water quality analysis of June 2005, that demonstrate "the effects of ignoring seasonal and/or critical environmental conditions".

**Response:** MDE has taken this into consideration and revised the TMDL analysis.

38. The commentor notes that in the Executive Summary the use designations I-P, II, and IV are correct for the Anacostia River itself, but that the non-tidal portion of the Anacostia Basin

above Bladensburg has different designations: IV, recreational trout waters, for Northwest Branch and tributaries; and default—water contact recreation for Northeast Branch. The commentor requests verification of use designations.

**Response:** MDE has taken this comment into consideration and revised the TMDL report.

39. The commentor references Section 1.0, Introduction, page 1 and requests that stream identification numbers be identified for each waterbody receiving an allocation in the TMDL report, pointing out that the 2004 303(d) list only identifies the Anacostia River Basin as needing a TMDL for non-tidal waters impaired by bacteria. The TMDL report does not allocate to the Anacostia River itself but upstream of Bladensburg.

**Response:** See Response to Comment #6.

40. The commentor notes that the TMDL report misstates the DC fecal coliform TMDL's allocation for Maryland. The allocation is  $3.48 \times 10^{14}$  MPN/year of fecal coliform, not enterococci/day. The commentor requests a correction.

**Response:** In the Introduction of the report, the allocation was written as 348,000 MPN fecal coliform/day, not enterococci/day as the commentor suggests. It was corrected to read 348,000 MPN fecal coliform/year.

41. In Section 2.0, pages 2-4, the commentor notes that different units are used in describing area which do not necessarily agree. Page 3 states total drainage area as 176 sq. mi. (about 112,640 acres), which does not agree with Table 2.1.1, which shows 92,721.9 acres. Commentor proposes consistent units be used.

**Response:** MDE has taken this into consideration and revised the acreages in the report.

42. Commentor notes that designated uses stated on page 14 do not agree with those in executive summary and requests verification.

**Response:** See Response to Comment #38.

43. The commentor notes that MDE's water quality standards have been modified and approved by EPA and requests correction of page 14 to conform accordingly.

**Response:** See Response to Comment #36.

44. The commentor refers to page 15 definition of "steady state" and asks if the phrase "and/or equally sampling" means that an equal number of high and low flow samples are taken. Also on page 15, reference is made to high, mid, and low flow regimes, but calculations are for high and low only—what is the explanation?

**Response:** Yes, "equally sampling" refers to an equal number of high flow and low flow samples. The analysis was directed to include 3 strata—high, mid and low flow regimes—

but the number of samples falling within the low flow stratum were less than 5 samples; therefore, these two strata were joined as one. This is explained in Appendix B of the report.

45. The commentor disagrees with reasoning regarding critical conditions in Section 4.4. By taking “steady state” to mean a year-long period, the effects of a critical condition are masked. The averaging period should be 30 days or no longer than seasonal (Memorial Day to Labor Day, MDE’s specified swimming season).

**Response:** See Response to Comment #6.

46. The commentor finds the application of “ $\text{Min}(P_h * 5 + P_d * 3 + P_l * 3 + P_w * 1)$ ” unclear and requests explanation.

**Response:** This formula is used by the risk minimization model used in the TMDL analysis to estimate the minimum risk factor when estimating final bacteria allocations by sources. As explained in the report (Section 4.2.6), risk was assigned on a scale of one to five, where it was assumed that human sources had the highest risk (5), domestic animals and livestock next (3) and wildlife the lowest risk (1) to human health. Different combinations of allocations by source are calculated and the final allocations will be the ones with the minimum risk number as estimated by adding the product of the percent from the TMDL for each source times its corresponding risk. The formula “ $\text{Min}(P_h * 5 + P_d * 3 + P_l * 3 + P_w * 1)$ ” can be read as “the minimum of the sum of the product of each final allocation by source multiplied by its assigned risk”.

47. The commentor requests inclusion of areas of MS4 systems control in the table on page 42 in the *stormwater* section.

**Response:** The table has been modified to include this information.

48. The commentor suggests adding language on page 44 indicating the possibility of conducting a watershed use attainability analysis (UAA) where water quality standards cannot be met after practicable reductions are made in bacteria loads.

**Response:** While a UAA is a possibility, downgrading standards is explicitly discouraged in regulation. Given the uncertainty in our knowledge of the effectiveness of controlling nonpoint sources of bacteria, MDE will evaluate the long-term progress of its iterative approach and adaptive management before considering whether a UAA could be appropriate.

49. The commentor points out that the paragraph on page 47 may need updating as the consent decree referred to has been filed, and advises inclusion of the decree’s effective date.

**Response:** This has been updated in the revised document.

50. The commentor references the paragraph on page 49 stating that neither the State nor EPA is advocating wildlife reduction although managing overpopulation may be an option, and suggests that the statement contradicts Table 4.7.6 on page 41. While it is clear to the

commentor that the table indicates up to an 81 percent reduction in wildlife bacteria loads is intended, the commentor insists that the TMDL report should clearly say so.

**Response:** The percent reduction in wildlife loads as reported in the document is necessary to meet water quality standards. But as explained in the report, and stated again by the commentor, “managing the overpopulation of wildlife remains an option for state and local stakeholders”.

### **Comments from the Second Public Comment Period**

51. The commentor references page 53 of the revised TMDL document, wherein it is stated: “A correlation analysis between E. coli and enterococci was performed using data...originally collected to compare fecal coliform and enterococci in Maryland’s waters, primarily beaches.” The commentor finds the applicability of such data in the freshwater environment of the Anacostia River questionable and therefore the correlation between fecal coliform and enterococci cannot provide reliable results. Studies indicate differing survival rates for both coliform and enterococci between salt and freshwater environments. A ratio derived solely from freshwater data could be different from what was calculated for the TMDL, and provide different outcomes for the loading allocations.

**Response:** The samples in the data set used in the correlation analysis were taken from both estuarine and freshwater sites. Not only did the analysis give reasonable result by itself, but it was also validated with fecal coliform-enterococci pair data provided by the Anacostia Watershed Society. See also response to comment # 19.

52. The commentors state that the MS4 WLA should be divided into separate allocations for Montgomery and Prince George’s Counties.

**Response:** The MS4 loads have been divided by subwatershed and by counties.

53. The commentors state that the Clean Water Act requires MDE to explicitly include the WLA in applicable NPDES permits and that MS4 permits are no exception. Furthermore, the commentors believe that a required Implementation Plan designed to meet the WLA also should be included in the permits.

**Response:** See Response to Comment #7.

54. The commentors express concern that MDE’s statements in the revised TMDL that the “TMDL implementation will be initiated using the Maximum Practicable Reductions (MPR) scenario” and that “MDE cannot provide EPA reasonable assurance at this time that the TMDL allocations can be met” send a signal that MDE does not intend to design implementation plans to achieve water quality standards and does not expect the Counties to reduce their pollutant loads accordingly. The commentors insists that MDE finalize a TMDL that not only meets water quality standards on paper, but also will be implemented in practice, rather than assuming difficult goals are not achievable.

**Response:** MDE’s statement commented upon is based on the acknowledgement of the physical and technical constraints in terms of the abilities of known management practices to effect such large reductions of bacterial loads. MDE does not suggest that counties or other entities do not work to implement all possible control measures. Rather, implementation will be initiated through an iterative, adaptive management based process, whereby the most cost effective and efficient control measures to be implemented first.

55. The commentors state that MDE must include an implementation plan with this TMDL, since without one there is no assurance that Maryland will meet its Anacostia water quality protection and restoration commitments.

**Response:** See Response to Comment #8.

56. The commentor finds charts confusing where the heading “tributary” is used at both watershed and sub-watershed scale (e.g., Tables 2.2.2 and 2.2.3), and requests clarification.

**Response:** The charts have been revised to avoid the confusion.

57. The commentor questions the source of information used on the number of septic systems in the subwatersheds, referencing page 22-24, Table 2.4.1 and Figure 2.4.1. If the numbers come from the “planning approach” to septic inventory, that approach is flawed, typically grossly overestimating the number of actual systems. Correlating property tax information with public sewer account information provides a more accurate assessment than using numbers provided by the Department of Planning.

**Response:** MDP septics database has been used by MDE in the past for several TMDL analyses. MDP’s estimated number of septics is the most readily available data for septics we had at the time of the TMDL development. Furthermore, 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.

58. The commentor feels that table columns labeled for Domestic Animals but truncated to “Domestic” should be corrected because it may cause confusion and possibly be mistaken for “Domestic Sewage”—see Tables 4.2.3.2, 4.2.6.3, 4.2.6.5, 4.2.6.6, 4.2.7.1 and 4.3.3.2.

**Response:** The report has been revised to include the term “domestic animals” in all the tables.

59. The commentors insist that the TMDL provide separate allocations to each MS4 permit in the watershed, specifically to Prince George’s County and to Montgomery County. Furthermore, the commentors state that any Phase II permit issued within a county MS4 sewershed must receive a sub-allocation from the county MS4 allocation; and, any institution in the watershed covered under stormwater discharge permit must have an allocation set forth in the Institutional Management plan (IMP), which must contain specific implementation control information for achieving the WLA.

**Response:** For Phase I (Prince George's and Montgomery Counties) see response to #7. For Phase II localities, EPA has formally required a programmatic approach through its December 2000 Phase II stormwater regulations. These do not require numeric effluent limitations. MDE and Maryland's Phase II communities are in compliance with the Code of Federal Regulations.

60. The commentors point out that the TMDL waste load allocation is silent on the Washington Suburban Sanitary Commission (WSSC) and the sanitary sewer lines that are a frequent source of sanitary sewage leakage into the Anacostia, due to a long history of “neglected maintenance”. The commentors believe the TMDL must explicitly provide for a WLA of zero to WSSC.

**Response:** Sanitary sewage leakages are infrastructure failures, they are prohibited and not permitted discharges, and as such, they should not be part of the TMDL equation. In addition, the analysis takes into account that all sanitary sewage leaks will be eliminated; therefore loads from these sources are zero.

61. Contending that Section 5.0 *Assurance of Implementation* contains language that does not provide assurances, the commentors recommend deleting the following passage:

“In the Anacostia River watershed, the TMDL analysis indicates that reduction of fecal bacteria loads from all sources including wildlife are beyond the MPR targets. The Anacostia River and its tributaries may not be able to attain water quality standards. The extent of the fecal bacteria load reductions required to meet water quality criteria in the six subwatersheds of the non-tidal Anacostia River and in downstream waters are not feasible by effluent limitations (there are no point sources in the tidal watershed), nor by implementing cost-effective and reasonable best management practices to nonpoint sources. Therefore, MDE cannot assure that the TMDL load and wasteload allocations can be implemented.”

**Response:** MDE believes that this passage is informative and highlights the challenges faced in attaining the water quality standard in the Anacostia. As indicated in the response to comment #54, MDE simply acknowledges that full implementation of all currently practical control measures may not result in full attainment of the water quality standards. MDE expects regulated entities to work toward full implementation of all practical measures. MDE also expects that as technology continues to evolve, regulated entities will have increased options available to continue moving forward toward meeting water quality standards.

62. The commentator refers to the Maximum Practicable Reduction (MPR) targets on pages 45 and 46 of the revised TMDL, noting that the comment to follow will not change the final Load Allocations. Nevertheless, the commentator feels that more appropriate MPR targets would help in meeting water quality standards more quickly and that the TMDL’s targets are inappropriately low and likely to delay restoration work for the Anacostia. Specifically, the commentator disagrees with the proposed 0% target for the wildlife portion of fecal bacteria, on the basis of evidence that the cause of fecal contamination from wildlife is the impervious

surfaces created by humans. The commentor argues that the reduction of impervious surfaces would reduce the wildlife-derived portion of fecal bacteria, citing various data and statistics that support this theory. The central premise is that, while stormwater runoff from impervious surfaces brings wildlife feces accumulated on the surfaces directly into the river, close to zero fecal bacteria input from runoff occurs in a natural area such as a forest, or areas where infiltration into litter layers or soils predominates. The commentor also references BMP efficiency information indicating BMPs could reduce fecal bacteria effectively. In conclusion, the commentor finds the MPR target of 0 for wildlife too small--it should be more than 50; even 75 might be appropriate—and recommends reducing impervious surfaces and increasing stormwater infiltration as key components of implementation.

**Response:** MDE appreciates the comments, and will forward the information to the TMDL Implementation Program staff. See response to Comment #8.