

**Comment Response Document
Regarding the Total Maximum Daily Loads of Nitrogen and Phosphorus
for Back River, Baltimore City and Baltimore County, MD**

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Loads (TMDLs) of nitrogen and phosphorus for Back River. The public comment period was open from December 2, 2004 through January 15, 2005. 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
Jennifer Murphy, Esq. Robert Albanese, Intern	Mid-Atlantic Environmental Law Center/ Widener University School of Law Clinic	January 15, 2005	1 through 7

Comments and Responses

1. The commentor states that it is not clear based from the text of the TMDL when to apply the average flow TMDLs for nitrogen and phosphorus. The commentor continues to state that it is not apparent what timeframe was used for the average annual TMDLs. The commentor further states that the low flow TMDL should be applied to low flow conditions occurring anytime during the year, not just the time period between May 1st and October 31st.

Response: The average Annual TMDLs of Nitrogen and Phosphorus represent the long-term average annual conditions of the estuary. The TMDLs and load allocation were presented as the annual average loading of a 3-year period (based on 1995-1997 hydrological conditions) to account for variability in inter-annual precipitation and evaluate the response to long-term, cumulative nutrient loading. This is consistent with the type of waterbody, the impairment (eutrophication), and the nonpoint source management practices that will eventually be used to implement the TMDL. Reduction of the average annual load of TN and TP, and stringent controls during the warmer months, are expected to result in achievement of water quality standards.

The average annual TMDLs apply to the entire year; however, during the May 1st – October 31st period (the algae growing season period) more stringent nutrient loadings limits apply. These additional limits ensure protection of water quality during the period when the waterbody is more sensitive to nutrients. Although we use the terminology “low flow,” the special TMDL limitations for the period May 1st – October 31st are motivated by the combination of low flow and warm sunny weather. That is, these stringent limits apply *only*

from May 1st through October 31st, because this is the period when factors such as sunlight and warmer water temperatures contribute to algae blooms and low dissolved oxygen concentrations. These limits need not be applied during cool winter months, when there is less sunlight, even if flows are low, because algae is not prevalent during the winter season.

2. The commentor states that the use of an explicit 5% margin of safety used in the calculation of both the low flow TMDL and the average annual flow TMDL may or may not be adequate to account for uncertainty about the relationship between the nitrogen and phosphorus loading and the water quality of Back River. The commentor further states that the low flow and the average annual flow TMDLs should justify why an explicit MOS of 5% is adequate.

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.

3. The commentor states that the proposed TMDLs contravene the Clean Water Act by failing to establish a total maximum daily load.

Response: The Code of Federal Regulations (40 CFR 130.2(i)) states that “TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure”. No explicit time period is required. The Environmental Protection Agency (EPA) acknowledges this in the preamble to their proposed TMDL regulations published in the Federal Register, August 23, 1999 (Volume 64, Number 162, Page 46031). Nevertheless, the TMDL value is also shown as an average daily load in order to assist the reader in understanding the magnitude of the loads involved.

4. The commentor states that the use of the phrase “average annual TMDL” within the text of the TMDL for the Back River is misleading. The commentor suggests that the Back River TMDL should be revised to either indicate the use of “average annual” loadings or “daily” loadings.

Response: See Response to Comment #3.

5. The commentor states that it is not sufficient that the stormwater wasteload allocations are expressed in a “gross allotment.” The commentor cites that MDE provides no citation as to what guidance EPA allows a state to not provide individual allocations to stormwater permits.

Response: The Back River nutrients TMDLs do provide individual allocations to stormwater permits. Urban Stormwater Allocations were given to each jurisdiction in the Back River watershed. It is the policy of MDE to report the gross waste load allocation and

load allocation in the main body of the TMDL documentation, and to supplement this with a technical memorandum. The regulated stormwater allotments sought by the commenter can be found in the Technical Memorandum entitled “Nutrient Point Sources in the Back River Watershed” and in Part E of Appendix E. The “gross allotment” phrase used in the TMDL document refers to the different sources that contribute to the total regulated stormwater load (i.e., residential, commercial, highways, etc.).

6. The commenter states that the proposed TMDLs fail to breakdown the nonpoint sources into some recognizable category of source such as urban runoff, etc. The commenter further states that failure to allocate specific loads to each nonpoint source category contravenes the CWA and makes it impossible to set implementation goals. The commentors recommend that MDE include individual or category load allocations in the proposed TMDLs.

Response: The calculated NPS allocation is implicitly the sum of the individual load allocations. The sub-allocation of the allowable NPS load to individual sources is a detailed implementation issue, which is beyond the scope of the TMDL. The technical memorandum entitled, “Significant Nutrient Nonpoint Sources in the Back River Watershed” and Part E of Appendix 1, describe viable individual allotments to each land use category. The technical memorandum provides information that is intended to facilitate future stakeholder dialog on implementing planning. Also see the response to comment 5.

7. The commenter states that the proposed TMDLs do not consider or recommend the implementation of any best management practices (BMPs) to reduce nitrogen and phosphorus loads. The commenter continues, noting that the proposed TMDLs set aggressive goals of reducing stormwater discharge loads of nitrogen and phosphorus by 15% but fail to identify any specific BMPs to achieve these levels of reduction. The commentors recommend that MDE include enforceable implementation plans in the proposed TMDLs that include specific BMPS that can be used to achieve individual load allocations.

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 the TMDL development process.