

## **Comment Response Document for the Biochemical Oxygen Demand (BOD) TMDL for Conococheague Creek Washington County, Maryland**

### **Introduction**

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Total Maximum Daily Load (TMDL) for BOD in Conococheague Creek. The public comment period was open from November 6, 2000 through December 6, 2000. MDE received 2 sets of written comments.

Below is a list of commenters, their affiliation, and the date they submitted comments. In the pages that follow, comments are summarized in conjunction with MDE's responses.

### **List of Commentors**

Author	Affiliation	Date	Comment No.
Julie A. Pippel	Washington County Water & Sewer Department	12/04/00	1
James M. Stuhltrager Susan D. Mack	Mid-Atlantic Environmental Law Center on behalf of the Chesapeake Bay Foundation, the American Littoral Society, and the Earthjustice Legal Defence Fund	12/06/00	2 through 11

### **Comments and Responses**

1. One commentor suggests that MDE consider Conococheague Creek as a future candidate for de-listing from the 303(d) list.

**Response:** The MDE will use this TMDL to make future decisions that will protect and maintain the designated use of the Conococheague Creek. In addition, in conjunction with MDE's conversion to watershed based permitting, Conococheague Creek is scheduled for intensive water quality surveys in 2002. This data will be evaluated to consider whether it may be appropriate to delist the Creek in the future.

2. One commentor questions the monthly limits proposed in the TMDL documentation, saying that failure to propose a *daily* load is inconsistent with the Clean Water Act.

**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 recent preamble to their proposed TMDL regulations published in the Federal Register, August 23, 1999 (Volume 64, Number 162)] page 46031. Nevertheless, in order to assist the reader in understanding the magnitude of the loads involved the TMDL value is also shown as an average daily load.

3. One commentor questions the increase in BOD loads from point sources specifically questioning how, if Conococheague Creek is currently impaired by low dissolved oxygen, the water quality can improve in such a case.

**Response:** Extensive water quality data collected from 1994 to 1998 shows a minimum dissolved oxygen of 5.9 mg/l and an average dissolved oxygen of 7.94 mg/l for the critical May-October period. Thus, there appears to be assimilative capacity available for BOD loads beyond the current loads. The additional allowable BOD load of 11,300 lbs/month is considered for both the point and nonpoint sources. It is calculated based on the conservative criteria such as low-flow stream conditions and high water temperatures, and hence, the MDE has confidence to achieve the target-dissolved oxygen of 5.5 mg/l. MDE will use this TMDL to manage the future BOD loads that can cause impairment to the Conococheague Creek.

4. One commentor states that MDE should also include the Potomac River in modeling, as the model predicts minimum dissolved oxygen in the Conococheague Creek at the confluence with the Potomac River. The increased BOD loads from the Conococheague Creek will contribute water quality standard violations in the Potomac River.

**Response:** High dilution is available in the Potomac River at the Conococheague Creek confluence. The BOD loads entering from the Conococheague Creek will be diluted to such a low level that it would have minimal effects on the Potomac River's dissolved oxygen levels. MDE feels that at this time it is not necessary to extend the model to include the Potomac River. Please note that an increase in flow and BOD loads at the Conococheague WWTP will occur after abandoning the AI Nicodemus WWTP and diverting the flow to the Conococheague WWTP. Currently the AI Nicodemus WWTP discharges directly into the Potomac River. A future TMDL for the Potomac River will include the loading from Conococheague Creek.

5. One commentor questions why nitrogen and phosphorus are excluded in the TMDL, even though the stream is listed as impaired for nutrients.

**Response:** The Conococheague Creek was listed as being potentially impacted by nutrients (nitrogen and phosphorus). The current water quality data does not show chlorophyll-a concentrations high enough to warrant nutrient control, nor do the nutrient levels contribute

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to any violations of the dissolved oxygen standards. Also, the Chesapeake Bay Tributary Strategy and addition of the BNR processes at the Conococheague WWTP would control the future nutrients loads to the Conococheague Creek.

6. One commentor suggests using maximum daily permitted discharges and BOD loads from point sources, rather than monthly averages, to determine the impairment of the stream for low dissolved oxygen on a given day.

**Response:** See response to Comment 2. Also, the total allowable BOD load for TMDL is projected by a mathematical model using conservative conditions, such as 7-day, 10-year low-flow and 90<sup>th</sup> percentile water temperatures. A minimum dissolved oxygen level of 5.5 mg/l instead of the dissolved oxygen standard of 5.0 mg/l is also considered to provide buffer for daily dissolved oxygen variations as well as other factors that are not accounted in the model. Considering these factors and nature of the point sources operations, setting the BOD TMDL loads as a monthly average is more reasonable than setting a daily maximum.

7. One commentor states that the TMDL does not account for nonpoint source loadings that occur from storm events during low flow periods.

**Response:** The nonpoint source loadings are incorporated in the TMDL as tributaries' loads. High flows during storm events would provide high dilution and faster flushing that will not cause violations of the dissolved oxygen standards despite the increased loadings.

8. One commentor suggests that the TMDL include a discussion of interstate agreements for improving and protecting the water quality of the Conococheague Creek.

**Response:** In this TMDL, MDE has allocated BOD loads to Pennsylvania in proportion to the drainage area. The Pennsylvania Department of Environment Protection has been provided a copy of the draft TMDL for review. In this case, EPA Region III will help to enforce the TMDL.

9. One commentor remarks that the 30-year old field data is used to set load allocations for Maryland and Pennsylvania. MDE should make an effort to collect more current data on background concentrations.

**Response:** The vast majority of the field data was collected from 1994 to 1998. In addition, in conjunction with MDE's conversion to watershed based permitting, Conococheague Creek is scheduled for intensive water quality surveying in 2002.

10. One commentor voices concerns regarding failure to allocate the non point load among individual sources or category of sources.

**Response:** The calculated non-point allocation is implicitly the sum of the individual load allocations. The sub-allocation of the allowable non-point load to individual sources is a

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detailed implementation issue, which is beyond the scope of the TMDL.

**11.** One commentor questions the adequacy of the Margin of Safety.

**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 the 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 MOS, may be revised in the future as better information becomes available.