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Comment Response Document for the Total Maximum Daily Loads of Carbonaceous Biochemical Oxygen Demand (CBOD) and Nitrogenous Biochemical Oxygen Demand (NBOD) for Antietam Creek in 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 biological oxygen demand (BOD) in the Antietam Creek. The public comment period was open from November 9, 2001 to December 10, 2001. 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
Julie Ann Pippel	Washington County Water and Sewer Department	December 10, 2001	1 though 3

Comments and Responses

1. The commentor stated that the Technical Memorandum cites a permitted flow of 0.16 million gallons per day (MGD) for the Antietam Wastewater Treatment Plant (WWTP); however, the actual National Pollutant Discharge Elimination System (NPDES) permitted flow for the Antietam WWTP is 0.163 MGD. The commentor noted that the loading allocations should be based on actual permitted flow; therefore, the commentor requested that the allocation be corrected or that an explanation be provided regarding why the reduced flow was utilized for the allocation calculation.

Response: The allocation has been recalculated based on the approved water and sewer plan flow of 0.163 MGD, which represents a 3,000 gallon-per-day difference (This compares to a total point source flow of about 11,910,000 in the basin, or 0.00025 percent of the flow). Because these changes are extremely small, modeling demonstrates they are projected to have no measurable affect on water quality. The percentage of change in the waste load allocations (WLA) for CBOD is 0.05%, and for NBOD is 0.1%. The percentage changes in the TMDLs are even smaller. For CBOD it is 0.025% and for NBOD it is 0.062%.

2. The commentor noted that the future allocation for each of the WWTP facilities listed in Table 1 of the Technical Memorandum appears to have been calculated differently for each facility. The commentor requested that information be provided regarding

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how MDE calculated the future allocation, and how the calculation relates to the facility.

Response: Four of the five WWTP facilities were allowed a 31.3 percent increase in flow. This value represents the maximum increase in flow which would not adversely affect the stream water quality as determined from calculations used to assess the assimilative capacity of Antietam Creek under future loading conditions. One of the five WWTP facilities, the Funkstown WWTP, was not given any increase because its flow currently averages only 0.055 MGD compared to the allocated flow of 0.15 MGD, which would actually allow its flow to more than triple without the need for a change in CBOD and NBOD limitations.

3. The commentor stated that the Interim Nutrient Cap Strategy (i.e., a strategy MDE is currently incorporating into the NPDES permit renewal for all facilities over 0.5 mgd, requiring that WWTPs provide their best effort to maintain their nitrogen loading at 8 mg/l times their actual 2000 flows) contradicts the intent of the TMDL. The commentor requested that, since MDE contributed grant-funding dollars to upgrade these facilities to permitted levels, a “grandfather clause” be provided that will allow these facilities to be utilized to their permitted and funded level.

Response: The proposed TMDL is for localized impacts of BOD. Although NBOD is included, it relates primarily to ammonia forms of nitrogen, and does not translate to a total nitrogen limit. The interim nutrient cap strategy is for the effects of nutrients on the Chesapeake Bay. Given that the proposed TMDL and Bay Program nutrient goals address different substances, there is little potential for contradiction between the BOD TMDL and the interim nutrient cap strategy.

Cases do arise elsewhere in the State where nitrogen TMDLs have been established to protect local water quality. In cases where the TMDL is more limiting than the interim cap, the TMDL limit determines the level of treatment needed under a regulatory framework. This can be achieved in a number of ways, including but not limited to the use of enhanced treatment technology, the relocation of discharge outfalls, and the use of land application of treated effluents.

In cases where the interim cap strategy is more limiting than the TMDL, discharge permit limits are only required to reflect the less restrictive limits of the TMDL; however, local jurisdictions have agreed to meet the more restrictive limits of the Bay Program. Under a current regional agreement, if the Bay Program nutrient goals are not met by 2010, the Bay Program goals will be formalized as TMDL limits, and will be enforced by discharge permit limits.

The BOD TMDL for Antietam Creek indicates that wastewater treatment facilities can operate up to their design capacity without causing a localized dissolved oxygen impairment in Antietam Creek as long as the BOD requirements in their permits are satisfied. As noted above, the situation for nutrients being contributed down stream to the Chesapeake Bay is different. The interim cap strategy says that as flows from

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wastewater facilities increase beyond the estimated year-2000 flows, nutrient concentrations need to be reduced to keep the nutrient loads from going above the year-2000 loading goal, which is based on the actual 2000 flow times 8 mg/l total nitrogen. The effort to prevent the load from increasing involves operating equipment built under BNR agreements in an optimal manner. MDE intends to provide financial assistance to the maximum extent feasible in support of the next round of nutrient reductions that will be called for under the Bay Program.