UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029
4/17/2008

Richard Eskin, Ph.D.
Director, Technical and Regulatory Services Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 540
Baltimore, MD 21230

Dear Dr. Eskin:

The U.S. Environmental Protection Agency (EPA) is pleased to approve the Western Maryland pH Total Maximum Daily Loads (TMDL) for the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds in Garrett and Allegany Counties, Maryland and Somerset County, Pennsylvania. The TMDL Report was submitted by the Maryland Department of the Environment (MDE) to EPA for approval on September 26, 2007, with corrections submitted on March 6, 2008. This TMDL was established and submitted in accordance with Sections 303(d)(1)(c) and (2) of the Clean Water Act to address impairments of water quality as identified in Maryland's Section 303(d) Lists. Three of the five 8-digit basins listed above were identified on Maryland's Section 303(d) Lists as impaired by low pH including Casselman River, Georges Creek, and the Upper North Branch of the Potomac River. All five of the 8-digit basins were identified as impaired by impacts to biological communities. The Wills Creek Watershed was also identified as impaired by nutrients. In addition to the 8-digit basin listings for low pH, there are several 12-digit basin listings for low pH in Georges Creek, the Upper North Branch of the Potomac River, and Wills Creek. The listings for impacts to biological communities and/or nutrients will be addressed by MDE at a future date. A total of 260 TMDLs (waterbody/pollutant combinations) were developed for iron, aluminum, sulfate, nitrate, and ammonium on 52 stream segments in the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds to address localized water quality impairments for low pH. While the headwaters of Wills Creek and portions of the Casselman River flow through Pennsylvania, only the portions of these waterbodies that flow through Maryland are included in this TMDL study.

In accordance with Federal regulations at 40 CFR §130.7, a TMDL must comply with the following requirements: (1) be designed to attain and maintain the applicable water quality standards; (2) include a total allowable loading and as appropriate, wasteload allocations for point sources and load allocations for nonpoint sources; (3) consider the impacts of background pollutant contributions; (4) take critical stream conditions into account (the conditions when water quality is most likely to be violated); (5) consider seasonal variations; (6) include a margin of safety (which accounts for uncertainties in the relationship between pollutant loads and instream water quality); and (7) be subject to public participation. The Western Maryland pH

TMDLs for the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds satisfy each of these Requirements. In addition, these TMDLs considered reasonable assurance that the TMDL allocations assigned to nonpoint sources can be reasonably met. A copy of EPA's decision rationale for approval of these TMDLs is included with this letter.

As you know, all new or revised National Pollutant Discharge Elimination System permits must be consistent with the TMDL wasteload allocation pursuant to 40 CFR §122.44 (d)(1)(vii)(B). Please submit all such permits to EPA for review as per EPA's letter dated October 1, 1998.

If you have any questions concerning these TMDLs, please contact Mr. Kuo-Liang Lai, Maryland TMDL Coordinator, at (215) 814-5473.

Sincerely,

Signed

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: Melissa Chatham, MDE-TARSA
Nauth Panday, MDE-TARSA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Decision Rationale
Western Maryland pH
Total Maximum Daily Loads for the Casselman River Georges Creek, Savage River, Upper North Branch of The Potomac River, and Wills Creek Watersheds Garrett and Allegany Counties, Maryland and Somerset County, Pennsylvania

Signed

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Jon M. Capacasa, Director
Water Protection Division

Date: 4/17/2008

Decision Rationale

Western Maryland pH Total Maximum Daily Loads for the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds in Garrett and Allegany Counties, Maryland and Somerset County, Pennsylvania

I. Introduction

The Clean Water Act (CWA) requires a Total Maximum Daily Load (TMDL) to be developed for those waterbodies identified as impaired by the state where technology-based and other controls will not provide for attainment of water quality standards. A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources, including a Margin of Safety (MOS), that may be discharged to a water quality limited waterbody.

This document sets forth the U.S. Environmental Protection Agency's (EPA) rationale for approving the Western Maryland pH TMDLs. The TMDLs were established to address impairments of water quality, caused by low pH, as identified in Maryland's Section 303(d) Lists for water quality limited segments. The Maryland Department of the Environment (MDE) submitted the report, *Western Maryland pH TMDLs for the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds* on September 26, 2007, with corrections submitted on March 6, 2008. A total of 260 TMDLs (waterbody/pollutant combinations) were developed for iron, aluminum, sulfate, nitrate, and ammonium on 52 stream segments in the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds to address localized water quality impairments for low pH.

EPA's rationale is based on the information contained in the TMDL Report, the Appendices to the report, the Comment Response Document, and MDE's responses to EPA's comments. EPA's review determined that the TMDL meets the following seven regulatory requirements pursuant to 40 CFR Part 130.

1. The TMDL is designed to implement applicable water quality standards.
2. The TMDL includes a total allowable load as well as individual wasteload allocations (WLAs) and load allocations (LAs).
3. The TMDL considers the impacts of background pollutant contributions.
4. The TMDL considers critical environmental conditions.
5. The TMDL considers seasonal environmental variations.
6. The TMDL includes a MOS.
7. The TMDL has been subject to public participation.

In addition, these TMDLs considered reasonable assurance that the TMDL allocations assigned to nonpoint sources can be reasonably met.

Please Note: From this point forward, all references in this Decision Rationale are found in Maryland's TMDL Report *Western Maryland pH TMDLs for the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds* (TMDL Report), unless otherwise noted.

II. Summary

The TMDLs specifically allocate the allowable iron, aluminum, sulfate, nitrate, and ammonium loadings to address low pH impairments on 52 stream segments in the Casselman River, Georges Creek, Savage River, Upper North Branch of the Potomac River, and Wills Creek Watersheds. There are nine permitted point source facilities in the five Western Maryland watersheds including one water treatment plant (WTP) and eight mining related permits. WLAs were assigned to the nine permitted facilities that had explicit limits for iron. MDE assumed that if a parameter limit was not in a permit, then the present discharge levels were not adversely affecting the stream. The fact that the TMDL does not assign WLAs to any other sources in the watershed should not be construed as a determination by either EPA or MDE that there are no additional sources in the watershed that are subject to the National Pollutant Discharge Elimination System (NPDES) program. In addition, the fact that EPA is approving this TMDL does not mean that EPA has determined whether some of the sources discussed in the TMDL, under appropriate conditions, might be subject to the NPDES program. The iron, aluminum, sulfate, nitrate, and ammonium TMDLs to address low pH impairments are presented in Table 5-2 as annual loads in pounds per year because it was developed to meet TMDL endpoints under a range of conditions observed throughout the year. Daily maximum loads are presented by flow percentile range in pounds per day for iron, aluminum, sulfate, nitrate, and ammonium in Tables 5-4 to 5-8.

The TMDL is a written plan and analysis established to ensure that a waterbody will attain and maintain water quality standards. The TMDL is a scientifically based strategy that considers current and foreseeable conditions, the best available data, and accounts for uncertainty with the inclusion of a MOS value. The option is always available to refine the TMDL for resubmittal to EPA for approval if environmental conditions, new data, or the understanding of the natural processes change more than what was anticipated by the MOS.

III. Background

The TMDL study area (Figure 1-2) includes the Casselman River Watershed (05020204), Georges Creek Watershed (02141004), Savage River Watershed (02141006), Upper North Branch of the Potomac River Watershed (02141005), and Wills Creek Watershed (02141003). All five watersheds are in western Maryland in Garrett or Allegany Counties; however, portions of Wills Creek and Casselman River also flow through Somerset County, Pennsylvania. The headwaters of Wills Creek begin in Pennsylvania. The Casselman River flows through portions of Maryland and Pennsylvania and eventually flows into the Youghiogheny River. The Savage River, Georges Creek, and Wills Creek all flow into the Upper North Branch of the Potomac River. The Northern Branch of the Potomac River flows along the southern edge of Maryland until the river reaches the Chesapeake Bay. The TMDL study addresses only those portions of

the watersheds in Maryland. The drainage area of the five Western Maryland watersheds is approximately 414,194 acres (647.2 square miles). The watershed is dominated by forest (71.9%), agriculture (19.5%), urban (4.5%), mining (2.2%), barren (1.4%), water (0.3%), and wetlands (0.2%) land uses (Table 2-7). Urban land use is mostly concentrated around rivers and other waterbodies. Section 2.0 of MDE's TMDL Report provides additional information about the five Western Maryland watersheds, including land use information.

The Casselman River 8-digit basin (05020204) is impaired by impacts on biological communities (2002/2004 listing) and low pH (1996 listing). The Georges Creek 8-digit basin (02141004) is impaired by impacts on biological communities (2002 listing) and low pH (1998 listing). The Savage River 8-digit basin (02141006) is impaired by impacts on biological communities (2004/2006 listing). The Upper North Branch of the Potomac River 8-digit basin (02141005) is impaired by impacts on biological communities (2004 listing) and low pH (1996 listing). The Wills Creek 8-digit basin (02141003) is impaired by impacts on biological communities (2002 listing) and nutrients (1996 listing). In addition to the 8-digit basin listings for low pH, there are several 12-digit basing listings for low pH in Georges Creek, the Upper North Branch of the Potomac River, and Wills Creek Watersheds. All low pH listings are displayed in Table 1-1. The listings for impacts to biological communities and/or nutrients will be addressed by MDE at a future date.

In 2005, MDE monitored 92 stream segments in the five Western Maryland watersheds to identify pH impaired streams. Of these, MDE identified 52 stream segments as impaired by low pH including 14 in the Casselman River Watershed, ten in the Georges Creek Watershed, nine in the Savage River Watershed, 14 in the Upper North Branch of the Potomac River Watershed, and five in the Wills Creek Watershed. Table 1-2 and Figures 1-1 and 1-2 present the impaired waterbodies in the five Western Maryland watersheds. The pollutant loadings were classified by source, including acid mine drainage (AMD) and atmospheric deposition. In addition, a segment could be classified as having chronic or episodic acidification with no identified source. This document proposes to establish a TMDL of low pH in the 52 impaired stream segments that will allow for attainment of the associated designated uses. A total of 260 TMDLs (waterbody/pollutant combinations) were developed for iron, aluminum, sulfate, nitrate, and ammonium on 52 tributaries in the five Western Maryland watersheds to address localized water quality impairments for low pH.

Portions of the Casselman River and Wills Creek are in Somerset County, Pennsylvania. Pennsylvania included the Casselman River on its 2006 Section 303(d) List for impairments to the aquatic life designated use caused by metals and pH from AMD. Wills Creek and the North Branch of Jennings Run, a tributary to Wills Creek, are attaining Pennsylvania's water quality criteria where they enter Maryland.

Computational Procedures

Sections 3 and 4 describe the modeling processes employed during TMDL development. TMDLs were developed using the Mining Data Analysis System (MDAS) to represent the source-response linkage for pH in the five Western Maryland watersheds. MDAS is a comprehensive data management and modeling system that is capable of representing loads from nonpoint and point sources in the watershed and simulating instream processes. MDAS is used to simulate watershed hydrology and pollution transport, as well as stream hydraulics and instream water quality. It is capable of simulating different flow regimes and pollutant loading variations. TMDL endpoints were based on Maryland's water quality criteria for pH which allow no values below 6.5 or above 8.5. To address low pH impairments, chemical species that affect pH (such as sulfate, iron, aluminum, nitrate, and ammonium) were reduced in the model simulation to raise the pH above 6.5.

EPA has determined that these TMDLs are consistent with statutory and regulatory requirements and EPA's policy and guidance. EPA's rationale for establishing these TMDLs is set forth according to the regulatory requirements listed below.

IV. Discussion of Regulatory Conditions

EPA finds that MDE has provided sufficient information to meet all of the seven basic requirements for establishing low pH TMDLs for the five Western Maryland watersheds. Additionally, MDE provided reasonable assurance that these TMDLs can be met. EPA, therefore, approves these low pH TMDLs for the five Western Maryland watersheds. This approval is outlined according to the seven regulatory requirements listed below.

1) The TMDLs are designed to implement applicable water quality standards

Water Quality Standards consist of three components: designated and existing uses; narrative and/or numerical water quality criteria necessary to support those uses; and an anti-degradation statement. The Maryland water quality standards requires the water quality in the five Western Maryland watersheds to support their designated uses. The mainstem of the Casselman River is designated as Use IV – Recreational Trout Waters (Code of Maryland Regulations, (COMAR), 26.08.02.08S(5). The mainstem of Georges Creek and the Upper North Branch of the Potomac River is designated as Use I-P – Water Contact Recreation, and Protection of Nontidal Warm Water Aquatic Life, and Public Water Supply (COMAR 26.08.02.08R(1)(a) and (b)). The mainstem of the Savage River is designated Use III-P – Natural Trout Waters and Public Water Supply (COMAR 26.08.02.08R(4)). The mainstem of Wills Creek is designated as Use IV-P – Recreational Trout Waters and Public Water Supply (COMAR 26.08.02.08R(6)(a)). All remaining tributaries not listed are designated as Use I – Water Contact Recreation, and Protection of Nontidal Warm Water Aquatic Life (COMAR 26.08.02.07A). The pH numeric criteria requires that pH values for all the above designated uses may not be less than 6.5 or greater than 8.5 (COMAR 26.08.02.03-3(B)(1) (E)(2)(a), (F)(4) and (G)(1)). Table 1-2 presents the water quality standards for Maryland, Pennsylvania, and EPA's national recommended water quality criteria. The overall objective of these TMDLs is to

reduce iron, aluminum, sulfate, nitrate, and ammonium loads to meet the pH water quality standard for all designated use categories for the five Western Maryland watersheds. EPA believes that this is a reasonable and appropriate water quality goal.

2) The TMDLs include a total allowable load as well as individual wasteload allocations and load allocations.

Total Allowable Load

A TMDL is the total amount of a pollutant that can be assimilated by the receiving water while still achieving water quality standards. TMDLs can be expressed in terms of mass per time or by other appropriate measures. TMDLs are comprised of the sum of individual WLAs for point sources, LAs for nonpoint sources, and natural background levels. In addition, the TMDL must include an MOS, either implicitly or explicitly, that accounts for the uncertainty in the relationship between pollutant loads and the quality of the receiving stream. An allocation to future growth may also be included. Conceptually, this definition is denoted by the following equation:

TMDL = Summation of WLAs + Summation of LAs + MOS + Future Growth

Potential sources affecting pH in the five Western Maryland watersheds are point sources, atmospheric deposition (acid rain), AMD, agriculture, and naturally occurring conditions. TMDLs and source allocations were developed on a subwatershed basis for each of the impaired watersheds in Table 1-2. TMDL allocations include the LAs for nonpoint sources and the WLAs for point sources. A top-down methodology was followed to develop these TMDLs and allocated loads to sources. Headwaters were analyzed first because their loading affects downstream water quality. Loading contributions of iron, aluminum, sulfate, nitrate, and ammonium were reduced from applicable sources in these waterbodies until the pH criteria were met. The loading contributions of unimpaired headwaters and reduced loadings for impaired headwaters were then routed through downstream waterbodies. Using this method, contributions from all sources were weighted equitably and pH criteria were achieved through the system. Reductions in sources affecting impaired headwaters ultimately led to improvements downstream and effectively decreased necessary reductions from downstream sources. Source allocations were developed for iron, aluminum, sulfate, nitrate, and ammonium.

Allocations were assigned so that pH did not fall below 6.5. Table 5-1 presents the pH ranges in the impaired watersheds after allocations were applied. Subsections 5.3.1, 5.3.2, and 5.3.3 describe WLAs, LAs, and the MOS and the future growth (FG) components, respectively. Table 5-2 summarizes the yearly TMDL allocations and Table 5-3 compares the TMDL allocations to the baseline loads. The model was run for the period of December 1, 2004 through November 30, 2005. This produced daily loads that were then summed over the year to create the yearly loads, which are presented in Table 5-2 and subsequent tables. Note that the atmospheric deposition contribution of ammonia is expected to increase in the model area based on the Clean Air Interstate Rule (CAIR) model, thus some TMDL conditions are greater than baseline conditions.

One way to express loads is through load duration curves. Figure 5-1 is an example of a curve for sulfate for Laurel Run (WM-67/LRE0029). Points at the lower end of the curve plot (0 through 10 percent) represent high flow conditions where only 0 through 10 percent of the flow exceeds the plotted point. Conversely, points on the high end of the plot (90 to 100 percent) represent low flow conditions. The load duration curve shows the calculation of the TMDL at any flow rather than at a single, critical flow. The official TMDL number is reported as a single number, but the curve is provided to demonstrate the value of the acceptable load at any flow. Tables 5-4 through 5-8 present the maximum daily load by flow percentile range for iron, aluminum, sulfate, nitrate, and ammonium, respectively. Appendix J presents additional daily statistics and load duration curves by flow percentile range for each segment.

The iron, aluminum, sulfate, nitrate, and ammonium TMDLs were developed to address low pH in 52 stream segments of the five Western Maryland watersheds. TMDL endpoints were based on Maryland's water quality criteria for pH. The TMDLs and allocations are presented as mass loading rates of pounds per year for the annual loads and pounds per day for the daily maximum loads. Expressing TMDLs as annual and daily mass loading rates is consistent with Federal regulations at 40 CFR §130.2(i), which state that "the total allowable load shall be the sum of individual WLAs for point sources, LAs for nonpoint sources, and natural background concentrations." The low pH TMDLs for the five Western Maryland watersheds are consistent with 40 CFR §130.2(i) because the total loads provided by MDE equal the sum of the individual WLAs for point sources and the land-based LAs for nonpoint sources.

Wasteload Allocations

According to the TMDL Report, there are nine permitted point source facilities in the five Western Maryland Watersheds, including one water treatment plant and eight mining related permits. WLAs were assigned to the nine permitted facilities that had explicit limits for iron. On the basis of the types of activities and the minimal flow of the discharges, these permitted non-mining sources are believed to be negligible. Under these TMDLs, these minor dischargers are assumed to operate under their current permit limits and are assigned WLAs that allow them to discharge at their current permit limits. Table 5-9 presents the WLAs for each point source. MDE assumed that if a parameter limit was not in the permit then the present discharge levels were not adversely affecting the stream and a WLA was not given. No reductions were applied to the permitted point sources. There are no MS4 permits in the Western Maryland watersheds. Therefore, all rainfall driven loads were allocated to the LA.

Because the permits do not have limits for all parameters, during model development an analysis was performed on other data in PCS to see if this data had an affect on pH. The PCS database was searched for permits with the same Standard Industrial Classification (SIC) codes as the permits in the model. Average flows and loads from these facilities were used to calculate average effluent concentrations by SIC. Additional information was obtained from EPA's national recommended water quality criteria. No effect was observed; therefore, these concentrations were not used in the final model.

Load Allocations

According to Federal regulations at 40 CFR §130.2(g), LAs are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loadings should be distinguished. Table 5-10 presents the total annual load allocations for each stream. The LAs are gross allocations that incorporate loads for atmospheric deposition or mining nonpoint sources.

Federal regulations at 40 CFR §122.44(d)(1)(vii)(B) require that, for an NPDES permit for an individual point source, the effluent limitations must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA. EPA has authority to object to the issuance of an NPDES permit that is inconsistent with WLAs established for that point source. To ensure consistency with this TMDL, if an NPDES permit is issued for a point source that discharges one or more of the pollutants of concern in the five Western Maryland watersheds, any deviation from the WLAs set forth in the TMDL Report and described herein for a point source must be documented in the permit Fact Sheet and made available for public review, along with the proposed draft permit and the Notice of Tentative Decision. The documentation should: 1) demonstrate that the loading change is consistent with the goals of the TMDL and will implement the applicable water quality standards; 2) demonstrate that the changes embrace the assumptions and methodology of the TMDL; and 3) describe that portion of the total allowable loading, determined in the state's approved TMDL Report, that remains for any other point sources (and future growth where included in the original TMDL) not yet issued a permit under the TMDL. It is also expected that Maryland will provide this Fact Sheet for review and comment to each point source included in the TMDL analyses, as well as any local and state agency with jurisdiction over land uses for which LA changes may be impacted. It is also expected that MDE will require periodic monitoring of the point source(s) for total suspended solids, through the NPDES permit process, in order to monitor and determine compliance with the TMDLs WLAs.

In addition, EPA regulations and program guidance provides for effluent trading. Federal regulations at 40 CFR §130.2(i) state: "if Best Management Practices (BMP) or other nonpoint source pollution controls make more stringent LAs practicable, then WLAs may be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs." The state may trade between point sources and nonpoint sources identified in the TMDL as long as three general conditions are met: 1) the total allowable load to the waterbody is not exceeded; 2) the trading of loads from one source to another continues to properly implement the applicable water quality standards and embraces the assumptions and methodology of the TMDL; and 3) the trading results in enforceable controls for each source. Any changes such as these should be subject to public comment. Any revisions to WLAs and/or LAs should be submitted to EPA for review.

Based on the foregoing, EPA has determined that the TMDLs are consistent with the regulations and requirements of 40 CFR Section 130.

3) The TMDLs consider the impacts of background pollutant contributions.

The TMDLs consider the impact of background pollutant contributions by considering loadings from background sources. MDAS also considers background pollutant contributions by incorporating all land uses.

4) The TMDLs consider critical environmental conditions.

EPA regulations at 40 CFR §130.7(c)(1) require TMDLs to account for critical conditions for stream flow, loading, and water quality parameters. The intent of the regulations is to ensure that: 1) the TMDLs are protective of human health; and 2) the water quality of the waterbodies is protected during the times when they are most vulnerable.

Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards[1]. Critical conditions are a combination of environmental factors (e.g., flow, temperature, etc.), which have an acceptably low frequency of occurrence. In specifying critical conditions in the waterbody, an attempt is made to use a reasonable worst-case scenario condition. Critical conditions were considered while considering seasonal variations, by running the MDAS daily simulation model for several years, from January 1, 2000 to November 30, 2005, which integrates the stress effects over the course of time and thus inherently addresses critical conditions.

5) The TMDLs consider seasonal environmental variations.

See Requirement 4 above.

6) The TMDLs include a Margin of Safety.

The CWA and Federal regulations require TMDLs to include an MOS to take into account any lack of knowledge concerning the relationship between effluent limitations and water quality. EPA guidance suggests two approaches to satisfy the MOS requirement. First, it can be met implicitly by using conservative model assumptions to develop the allocations. Alternately, it can be met explicitly by allocating a portion of the allowable load to the MOS.

[1]EPA memorandum regarding EPA Actions to Support High Quality TMDLs from Robert H. Wayland III, Director, Office of Wetlands, Oceans, and Watersheds to the Regional Management Division Directors, August 9, 1999.

For this TMDL, a five percent MOS was included to counter uncertainty in the modeling process (Section 5.3.3.). The MOS loadings are presented in Table 5-2.

While the MOS is an allocation for scientific uncertainty, FG is an allocation for growth. Ten percent of the load was allocated for future growth in the area covered by the TMDL. This growth includes future urban development, including point sources, coal mining areas, agriculture, and other nonpoint sources. The FG could also be used for sources not accounted for or unknown and therefore not otherwise included in the TMDL. The FG loadings are presented in Table 5-2.

7) The TMDLs have been subject to public participation.

MDE provided an opportunity for public review of and comment on the sediment TMDL for the five Western Maryland watersheds. The public review and comment period for this TMDL was open from August 9, 2007 to September 7, 2007. MDE did not receive any written comments on these TMDLs.

Copies of the reports were sent to the U.S. Fish and Wildlife Service and National Marine Fisheries Service pursuant to Section 7(c) of the Endangered Species Act, requesting the Services' concurrence with EPA's findings that approval of this TMDL does not adversely affect any listed endangered and threatened species and their critical habitats.

V. Discussion of Reasonable Assurance

EPA requires that there be a reasonable assurance that the TMDLs can be implemented. Section 6 describes MDE's reasonable assurance that the TMDL will meet water quality criteria.

WLAs will be implemented through the NPDES permit process. According to 40 CFR §122.44(d)(1)(vii)(B), the effluent limitations for an NPDES permit must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA. Furthermore, EPA has the authority to object to issuance of an NPDES permit that is inconsistent with WLAs established for that point source.

Nonpoint source controls to achieve LAs will be implemented in an iterative process that places priority on those sources having the largest impact on water quality, with consideration given to ease of implementation and cost. BMPs can be implemented through a number of existing programs and funding sources. MDE encourages watershed associations to review funding sources available through MDE and other state and federal agencies including: the Federal Nonpoint Source Management Program (Section 319 of the Clean Water Act), the Acid Mine Drainage Abatement Section of the Maryland Bureau of Mines (BOM), the State Water Quality Revolving Loan Fund, and the Small Creeks and Estuaries Restoration Program. Section 6 lists several remediation projects underway in the impaired reaches. Watershed groups in the TMDL study area include the Braddock Run Watershed Association in the Wills Creek Watershed, the Georges Creek Watershed Association, and the Savage River Watershed Association.

On March 10, 2005, EPA issued the CAIR, which places caps on emissions for sulfur dioxide and nitrogen dioxides in the eastern United States. It is expected that CAIR will reduce sulfur dioxide emissions by more than 70 percent and nitrogen oxides emissions by more than 60 percent from the 2003 emission levels (USEPA 2005d). Because these pollutants are highly mobile in the atmosphere, emission reductions in West Virginia, Ohio, Pennsylvania, and possibly Michigan are expected to improve the quality of precipitation in the five Western Maryland watersheds.