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MEMORANDUM

TO: Angie Garcia, US Environmental Protection Agency (EPA) Region III
FROM: Jeff White
RE: Review of the Approval Letters for the 2009 and 2010 Nontidal Sediment Total Maximum Daily Load (TMDL) Fiscal Year (FY) Submittals
DATE: November 4, 2011

Maryland Department of the Environment (MDE) has reviewed the Approval Letters and Decision Rationales dated September 29, 2011 and September 30, 2011, respectively, for the following TMDLs:

1) Total Maximum Daily Load of Sediment in the Bynum Run Watershed, Harford County, Maryland (September 30, 2011);

2) Total Maximum Daily Load of Sediment in the Cabin John Creek Watershed, Montgomery County, Maryland (September 30, 2011);

3) Total Maximum Daily Load of Sediment in the Little Patuxent River Watershed, Howard and Anne Arundel Counties, Maryland (September 30, 2011);

4) Total Maximum Daily Load of Sediment in the Patuxent River Upper Watershed, Anne Arundel, Howard, and Prince George's Counties, Maryland (September 30, 2011);

5) Total Maximum Daily Load of Sediment in the Potomac River Washington County Watershed, Washington County, Maryland (September 30, 2011);

6) Total Maximum Daily Load of Sediment in the Rock Creek Watershed, Montgomery County, Maryland (September 29, 2011);

7) Total Maximum Daily Load of Sediment in the Seneca Creek Watershed, Montgomery County, Maryland (September 30, 2011);

8) Total Maximum Daily Load of Sediment in the Jones Falls Watershed, Baltimore City and Baltimore County, Maryland (September 29, 2011);

9) Total Maximum Daily Load of Sediment in the Patapsco River Lower North Branch Watershed, Baltimore City and Baltimore, Howard, Carroll, and Anne Arundel Counties, Maryland (September 30, 2011).

As a result of this review the following changes are requested:

General Revisions to the FY 2009 and 2010 Nontidal Sediment TMDL Approval Letters and Decision Rationales

- All references to Technical and Regulatory Services Administration (TARSA) should be changed to Science Services Administration (SSA).

- The Integrated Report year referenced in the Approval Letters and Decision Rationales should be consistent with the Integrated Report years referenced in the individual TMDL reports. For instance, the Cabin John Creek watershed Sediment TMDL reports states, "MDE has identified the waters of the Cabin John Creek watershed on the State's 2010 Integrated Report as impaired by sediments (1996), nutrients – phosphorus (1996), bacteria (2002), and impacts to biological communities (2006) (MDE 2010b)". The Approval Letter and Decision Rationale, however, reference the 2008 Integrated Report. Also, the following statement in the Approval Letters and Decision Rationales should be made consistent with the TMDL reports: "The 2010 Integrated Report included the results of a stressor identification analysis for the listing for impacts to biological communities. The stressor analysis indicates that…(individual impairing substances) are major stressors affecting biological integrity". This statement should be made consistent with the TMDL reports, which indicate 1) that the 2010 Integrated Report includes the results of the stressor identification analysis (and subsequently identifies those stressors), 2) that the 2012 Integrated Report will include the results of a stressor identification analysis (if the Biological Stressor Identification Analysis (BSID) was developed after the release of the 2010 Integrated Report – concurrently with the TMDL most likely), or 3) this statement is not included in the TMDL documentations (FY 2009 sediment TMDL submittals – Jones Falls watershed and Patapsco Lower North Branch watershed).

- The Tier II stream segments in the watershed, for which the TMDL has been developed, should be identified in the Decision Rationales, as per their identification in the individual TMDL reports. It is included in some of the Decision Rationales, but is not included in all of them. Thus, for consistency, MDE recommends that EPA include this information in all of the Decision Rationales for the 2009 and FY 2010 nontidal sediment TMDL submittals.

- MDE recommends that the term "long term maximum daily load" as opposed to "long term daily TMDL" be used throughout the Decision Rationales. For instance, Section II of the Cabin John Creek watershed sediment TMDL references the "long term daily sediment TMDL" in several instances. The text should refer to the "long term sediment maximum daily load (MDL)", or simply "long term sediment MDL".

- The following text is included in Section II of several Decision Rationales: "The sediment TMDL is presented as an average annual load in tons per year because it was calculated so as to not cause any sediment related impacts to aquatic health". This statement is confusing. MDE assumes the intent of this statement is to indicate why the TMDL was expressed in terms of an average annual load. Operating under this assumption, the Patuxent River Upper watershed sediment TMDL Decision Rationale has a more applicable and clear statement, which MDE is recommending that EPA include in place of the aforementioned text. The Patuxent River Upper watershed sediment TMDL states "The sediment TMDL is presented as an average annual load in tons per year because it was developed to meet TMDL endpoints under a range of conditions observed throughout the year".

- Section III of several Decision Rationales include the BSID results and associated descriptions as documented in the individual TMDL reports (i.e., sediment and flow stressors were identified as being associated with impaired biological communities at approximately <X>% and <X>%, respectively, of failing MBSS sites). However, some the Decision Rationales do not include the BSID results and their description. Thus, for consistency sake, MDE recommends that EPA add these results and descriptions to all of the applicable Decision Rationales. Additionally, since MDE is recommending that EPA include the BSID results and their description in all of the Decision Rationales, for logical consistency, it would make sense to include the results of the actual biological assessment for the applicable watershed and its associated description, as documented in the TMDL reports. The suggested text from the TMDL reports that MDE is recommending EPA add to the Decision Rationales is as follows:

  > "The <name> watershed is listed on Maryland's <year> Integrated Report as impaired for impacts to biological communities. The biological assessment is based on the combined results of MBSS round one (1995-1997) and round two (2000-2004) data, which includes <number> stations. All <number> stations, or <X>% of the stream miles in the watershed, are assessed as having BIBI and/or FIBI scores significantly lower than 3.0 (on a scale of 1 to 5)".

  It would make sense to include this paragraph immediately prior to the BSID results and description in the Decision Rationales.

- The following statement, or a variation of the statement, is included in Section III of the Patuxent River Upper watershed and Jones Falls watershed sediment TMDL Decision Rationales: "In the Patuxent River Upper watershed, a TMDL was developed through computer modeling based on data collected throughout the watershed". MDE is unclear as to the intent or meaning of this statement, since the TMDL was developed using a reference watershed approach and the loading rates and land use from the Chesapeake Bay Program Phase 5.2 (CBP P5.2) watershed model. Thus, no Total Suspended Solids (TSS) data was specifically collected in the watershed for the development of the TMDL. Therefore, MDE is recommending that EPA either revise or remove this statement from the Decision Rationales.

Specific Revisions to Multiple FY 2009 and 2010 Nontidal Sediment TMDL Approval Letters and Decision Rationales

Total Maximum Daily Load of Sediment in the Bynum Run Watershed, Harford County, Maryland (September 30, 2011):

- In Section II (page 2) of the Decision Rationale, change the second sentence to reflect that there are seven permitted stormwater point sources, rather than eight.
- In Section III, third paragraph, second sentence (page 3) of the Decision Rationale, change "Category III" to "Use III".
- In Section IV, sub-section 2) "Load Allocations" (page 7) of the Decision Rationale, delete the last two sentences and replace them with the following statement: "Since reductions are applied solely to the urban load for the purposes of this TMDL, the TMDL can be achieved without requiring further reductions from the LA".

Total Maximum Daily Load of Sediment in the Cabin John Creek Watershed, Montgomery County, Maryland (September 30, 2011):

- In Section III (page 3) of the Decision Rationale, the last sentence of the second paragraph is a repetition.
- In Section IV, sub-section 2) "Waste Load Allocations" of the Decision Rationale, the last sentence on page 7 is repeated on page 8.

Total Maximum Daily Load of Sediment in the Patuxent River Upper Watershed, Anne Arundel, Howard, and Prince George's Counties, Maryland (September 30, 2011):

- Page 1 of the decision rationale is missing from the report.
- Tables 1 and 2 of the Decision Rationale should be reformatted to appropriately group upstream and Maryland 8-Digiit (MD 8-Digit) watershed loads, as presented in the TMDL report.
- In Section III, paragraph 2 (page 4) of the Decision Rationale, the first sentence should be changed to "The Surface Water Use Designation…".
- In Section III of the Decision Rationale, the second sentence of the last paragraph on page 5 should be change to "Six reference watersheds were selected from the Coastal Plain physiographic province…".
- In Section III of the Decision Rationale, the equation on page 6 should be changed to match Equation 4.2 in the TMDL document.
- In Section IV, sub-section 3) "The TMDLs Consider the impacts of background pollutant contributions" (page 9) of the Decision Rationale, add the following sentence, which is found in most of the other decision rationales: "The CBP P5.2 model also considers background pollutant contributions by incorporating all land uses".

Total Maximum Daily Load of Sediment in the Seneca Creek Watershed, Montgomery County, Maryland (September 30, 2011):

- In the Approval Letter as well as in Section III of the Decision Rationale (page 4), please include information regarding the Water Quality Analysis (WQA) of eutrophication for the MD 8-digit watershed approved by EPA in 2009, as presented in the TMDL report.

Total Maximum Daily Load of Sediment in the Jones Falls Watershed, Baltimore City and Baltimore County, Maryland (September 29, 2011):

- In the second paragraph of the Approval Letter, please add the Integrated Report/BSID results text, which is found in all the other Approval Letters.
- In Section III of the Decision Rationale, the equation on page 5 should be changed to match Equation 4.2 in the TMDL document.

Total Maximum Daily Load of Sediment in the Patapsco River Lower North Branch Watershed, Baltimore City and Baltimore, Howard, Carroll, and Anne Arundel Counties, Maryland (September 30, 2011):

- Table 3 (page 3) of the Decision Rationale should be revised so that the minor point source facilities constitute one line item in the Table with a total WLA of 11.5 tons per year and an MDL of 0.8 tons/day.
- In Section III, paragraph 2 (page 5) of the Decision Rationale, please add information on the metals delistings, as presented in the TMDL report.
- In the second sentence of the second paragraph on page 9 of the Decision Rationale, change the "South Patapsco River watershed" to the "South Branch Patapsco River watershed".