FINAL

Comment Response Document
Regarding the Total Maximum Daily Load of Sediment in the Lower Gunpowder Falls Watershed, Baltimore County, Maryland

The Maryland Department of the Environment (MDE) has conducted a public review of the proposed Sediment TMDL for the Lower Gunpowder Falls Watershed. The public comment period was open from May 19, 2016 through June 17, 2016. MDE received two sets of written comments.

Below is a list of the commentors, their affiliations, the date comments were submitted, and the number referenced to the comments. In the pages that follow, comments are summarized along with MDE's responses.

List of Commentors

Author	Affiliation	Date	Comment Number
Mr. Steve Stewart	Baltimore County Dept. Environmental Protection & Sustainability	6/16/16	1-7
Mr. Wesley Schmidt	Baltimore County Dept. Environmental Protection & Sustainability (EPS)	6/17/16	8-14

Comments and Responses

1. The commentor states that Table ES-1 indicates a listing for PCBs in the Tidal subsegment, while the listing is missing in Table 1 of the body of the document. These tables should match.

   Response: Table 1 has been corrected.

2. The commentor references page 22, last paragraph stating it is indicated that 11 reference watersheds were selected from the Highland and Piedmont physiographic regions to develop forest normalized sediment loads. The commentor asks is it appropriate to use the Highland physiographic region for the development of the forest normalized loads given that the Lower Gunpowder Falls is in the Piedmont and Coastal Plan physiographic regions? Is there not a Coastal Plain physiographic region reference watershed available for inclusion and more applicable to the Lower Gunpowder Falls.

   Response: Since the majority of the Lower Gunpowder Falls Watershed lies in the Highland physiographic region, it was determined by MDE that the Highland/Piedmont reference watershed group would be most appropriate for use in this TMDL. There is a Coastal Plain reference watershed group that is used in sediment TMDLs that lie entirely or mostly in the Coastal Plain physiographic regions (e.g. Patuxent River Upper). For watersheds with equal

or close to equal acreages in the Coastal Plain and Piedmont regions, MDE uses the predominant region when determining which reference watershed group to use in the TMDL.

3. The commentor states the model used for sediment in the Lower Gunpowder Falls did not have a component for an upstream delivery from the Loch Raven watershed, which based on Maryland Assessment Scenario Tool (MAST) would be ~6,300 tons as the delivered load, but without accounting for the best management practices (BMP) reductions. The commentor assumes that this was not included since the mainstem stations are not impaired. The commentor states this should be noted in the text of the document.

   Response: The commentor is correct that the upstream load from Loch Raven Reservoir was not included in the TMDL because the mainstem of the Lower Gunpowder Falls is not impaired. As stated in the document, the TMDL is only for the 1st through 4th order streams, not the mainstream. Language has been added to the TMDL document to further clarify why no upstream load is included.

4. The commentor references page 26, next to last paragraph stating concentrated animal feeding operations (CAFOs) are indicated as a predominant controllable source among others, yet Table 1 has CAFOs as only covering 1 acre and they are not addressed under neither the nonpoint source nor the point source memoranda as having load reduction requirements.

   Response: The list of controllable sources on page 26 is meant to include all applicable controllable sources identified in Maryland's WIPs. The controllable sources specific to the Lower Gunpowder Falls watershed are listed on page 27, and have been corrected. Clarifying language has also been added to page 26.

5. The commentor references the Point Source Technical Memorandum and states the watershed model has an additional category for regulated stormwater loads that is not included in this analysis, unless it was included under the State Highway Administration (SHA) load, and that is State Phase II MS4. The edge-of-stream load for that category is ~93 tons.

   Response: The State Phase II MS4 category is included in the "Other NPDES Regulated Stormwater" in Table 3 of the Point Source Technical Memorandum. The general permit has been added to Table 2 of the tech memo and clarifying language has been added to both the tech memo and TMDL.

6. The commentor requests that in Table A-1 please include a column for the physiographic region to indicate which region each 8-digit watersheds falls in.

   Response: This column has been added to Table A-1.

7. The commentor references page B1, last bullet and states, the statement that "model river segments were calibrated to daily monitoring information for watersheds with a flow greater

than 100 cubic cfs, or an approximate area of 100 square miles", may be factually true, but there was no monitoring station used for calibration within the Lower Gunpowder Falls watershed.

Response: The commentor is correct that there is no monitoring station used for calibration within the Lower Gunpowder Falls watershed. The bullet referenced in the comment is applicable to the overall approach for estimating sediment loads and does not necessarily refer specifically to the Lower Gunpowder Falls watershed.

8. The commentor references page vi, 2nd full paragraph, sentence 3, missing a word or two "…may be degraded due extensive bar formation present…".

   Response: In the biological stressor identification (BSID) analysis, one of the parameters is described as *extensive bar formation present*. Additional formatting in the text will clarify this.

9. The commentor references the sentence, "For this TMDL, the Hydrologic Simulation Program Fortran has a simulation period between the years 1991 and 2000." on page vii, paragraph 2. The commentor asks whether it was considered to use a more recent simulation to possibly account for differences that may be due to climate change.

   Response: As stated on page vii, paragraph 2, the simulation period is based on what is used in the CBP 5.3.2 model, in order to maintain consistency with the 2010 Chesapeake Bay TMDLs. The 1991-2000 period is considered to be a representative recent hydrologic period and provides consistency with the averaging period in the Chesapeake Bay TMDL.

10. The commentor states the draft states that it would optimally achieve its sediment reduction goals by 2025, however, it doesn't state the actual goals until much later in the document. Baltimore County Dept. Environmental Protection & Sustainability (EPS) suggests that the TMDL goals be stated up front in the general summary.

    Response: All references of a 2025 goal in the TMDL refer to the USEPA goal of full implementation of the Chesapeake Bay TMDL. It is anticipated that full implementation of the Chesapeake Bay TMDL will make significant progress towards achieving the sediment reductions required for the Lower Gunpowder Falls sediment TMDL. However, this will need to be verified, as stated in the TMDL (p. ix):

    > *Once the Bay TMDL target sediment loads for the Lower Gunpowder Falls watershed have been met, MDE will reassess the sediment impacts on aquatic life in the Lower Gunpowder Falls watershed, based on any additional monitoring data available.*

    The goal of the TMDL, support of Use Class Designations and aquatic life, is stated in the Executive Summary (p. ix):

> *This TMDL will ensure that watershed sediment loads are at a level to support the Use Class I/III/IV designations for the Lower Gunpowder Falls watershed, and more specifically, at a level to support aquatic life*.

And again in the Introduction (p. 5):

> *The objective of this TMDL is to ensure that watershed sediment loads are at a level that supports the Use Class I/III/IV designation for the Lower Gunpowder Falls watershed.* (p. 5)

11. The commentor references Figure 1 stating the symbology for this map makes the streams difficult to differentiate (i.e. use class I, clashes with the background of the map).

    Response: The symbology for Figure 1 has been updated to better differentiate the Use Class designations.

12. The commentor references Figure 2 stating the title of this map describes it as a location map of the watershed within Baltimore County, however there are no county boundaries shown on the map, nor does the map actually provide a useful context for the purposes of identifying location. The symbology for the roadways makes them difficult to see against the chosen fill color for the watershed polygon. Moreover, these roads are not labeled, and thus may still fail to provide useful contextual information regarding location for many readers.

    Response: Since the watershed lies entirely within Baltimore County and does not intersect the county boundary, the county boundary is not shown on the map. The symbology and labeling on the map has been updated to better reflect context for identifying location.

13. The commentor states Table 2 is a detailed and useful table, however the land-use methodology described above it provides some questions. Section 2.1.1 describes development and manipulation of datasets from multiple years, however the Table 2 shows is described, in the above paragraphs, as being based solely on the Chesapeake Bay Program Phase 5.3.2 (CBP P5.3.2) 2009 Progress Scenario. If the table does draw only from a single year's data, it is suggested that the year be clearly indicated in the table.

    Response: The development of datasets from multiple years refers to how the land use data was processed to inform the time variable land use in the Chesapeake Bay watershed model. Table 2 shows land use distribution associated with the Chesapeake Bay Program Phase 5.3.2 (CBP P5.3.2) 2009 Progress Scenario. A footnote has been added to Table 2 to reflect the baseline year.

14. The commentor references Tables 4 and 5 suggesting that the baseline year be clearly stated somewhere in the table/title/footnote.

    Response: A footnote has been added to Tables 4 and 5 to reflect the baseline year.

Additional modifications to the documentation after the public comment period

During USEPA's review of the documentation, additional language modifications were made for clarity not described above. These edits occurred in the Executive Summary and Section 4.0.