

Technical Memorandum

Significant Sediment Nonpoint Sources in the Potomac River Washington County Watershed

The U.S. Environmental Protection Agency (EPA) requires that Total Maximum Daily Load (TMDL) allocations account for all significant sources of each impairing pollutant (CFR 2010). This technical memorandum identifies the significant nonpoint sources of sediment in the Potomac River Washington County watershed. Detailed allocations are provided for those nonpoint sources included within the Load Allocation (LA) portion of the Potomac River Washington County Watershed Sediment TMDL. These allocations are designed to meet the TMDL thresholds. The State reserves the right to allocate the TMDLs among different sources in any manner that protects aquatic life from sediment related impacts.

The Potomac River Washington County Watershed Sediment TMDL is presented in terms of an average annual load established to ensure the support of aquatic life. The computational framework chosen for the Potomac River Washington County watershed TMDL was the Chesapeake Bay Program Phase 5.2 (CBP P5.2) watershed model. The nonpoint source sediment loads generated within the Potomac River Washington County watershed are calculated as the sum of corresponding land use *edge-of-stream* (EOS) loads within the watershed and represent a long-term average loading rate. Individual land use EOS loads are calculated as a product of the land use area, land use target loading rate, and loss from the *edge-of-field* (EOF) to the main channel (US EPA 2010). Further details of the nonpoint source sediment load calculations can be found in Section 2.2.1 of the main report.

In order to attain the TMDL loading cap, reductions were applied equally to the predominant controllable sediment sources, which were identified as urban land, high till crops, low till crops, hay, and pasture. Within this TMDL, the majority of the urban load is used to represent the National Pollutant Discharge Elimination System (NPDES) regulated stormwater load, which is considered a point source that must be included in the Waste Load Allocation (WLA) portion of a TMDL (US EPA 2002). Therefore, the reductions applied to this regulated portion of the urban load are defined in the point source technical memorandum; however, the reductions applied to the unregulated portion of the urban load are defined within this nonpoint source technical memorandum. In the Potomac River Washington County watershed, the unregulated stormwater load is associated with urban stormwater sources under the purview of the State Highway Administration (SHA). SHA's Phase I municipal separate storm sewer system (MS4) permit is only applicable within other Phase I MS4 jurisdictions. Therefore, it is not applicable within this watershed, since Washington County is a Phase II MS4 jurisdiction. This results in the unregulated urban load. However, it is anticipated that the required reductions from unregulated stormwater sources will be achieved via the same methods as the required reductions from regulated stormwater sources (See Sections 4.5 and 4.6 of the main report and the point source technical memorandum for further details and descriptions).

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Table 1 provides one possible scenario for the distribution of the annual nonpoint source loads between different land use categories in the Potomac River Washington County watershed. The source categories in Table 1 represent aggregates of multiple sources (e.g., crop source is an aggregate of high till, low till, hay, animal feeding operations, and nursery sources).

Table 1: Potomac River Washington County TMDL Allocation by Nonpoint Source Category

| Nonpoint Source Category | Baseline Load (ton/yr) | TMDL (ton/yr) | Reduction (%) |
|---------------------------------|-----------------------------------|--------------------------|--------------------------|
| Crop | 9,326 | 7,928 | 15.0 |
| Extractive | 274 | 274 | 0.0 |
| Forest | 2,444 | 2,444 | 0.0 |
| Pasture | 2,330 | 1,976 | 15.0 |
| Unregulated Stormwater | 515 | 437 | 15.0 |
| Total | 14,889 | 13,060 | 12.3 |

REFERENCES

CFR (Code of Federal Regulations). 2010. 40 CFR 130.2(i).

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr;sid=43ac087684bf922499af8ffed066cb09;rgn=div5;view=text;node=40%3A21.0.1.1.17;idno=40;cc=ecfr#40:21.0.1.1.17.0.16.3> (Accessed May, 2010).

US EPA (U.S. Environmental Protection Agency). 2002. *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*. Washington, DC: U.S. Environmental Protection Agency.

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