

2020 Annual Baltimore Harbor and Curtis Creek/Bay PCB TMDL Assessment

Prepared by
Anne Arundel County
Department of Public Works
Bureau of Watershed Protection and Restoration

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Anne Arundel County 2020 Update on Progress Toward Meeting the Baltimore Harbor PCB TMDL WLA

Anne Arundel County (the County) submitted the Baltimore Harbor and Curtis Creek/Bay Polychlorinated Biphenyls (PCB) TMDL Restoration Plan as part of the County’s 2016 MS4 Annual Report.

Consistent with the Baltimore Harbor and Curtis Creek/Bay Polychlorinated Biphenyls (PCB) TMDL Restoration Plan and the County’s MS4 permit, progress toward PCB load reduction was modeled using the Center for Watershed Protection Watershed Treatment Model (WTM) adapted for PCBs for 2015 through 2019. Progress was modeled and tracked independently for each subwatershed. The results of previous years progress modeling are shown in Table 1 with the 2011 baseline, progress for years 2015 through 2019, and stormwater wasteload allocation (SW-WLA) included for comparison. Progress modeling was not required for 2020, per Maryland Department of the Environment (MDE). Rather, MDE requested that the County pursue field monitoring to determine the presence of PCBs and potential sources in lieu of modeling.

Table 1. PCB Progress Modeling (WTM) through 2019.		
	Curtis Creek/Bay Subwatershed (PCBs in grams/year)	Baltimore Harbor Subwatershed (PCBs in grams/year)
2011 Baseline	262.89	454.55
2015 Progress	262.09	453.33
2017 Progress Update	259.68	451.08
2018 Progress Update	258.58	449.34
2019 Progress Update	258.37	449.40
SW-WLA	17.09	40.45

In 2019 Anne Arundel County completed the development of a targeted PCB action strategy, one of the recommendations in the 2018 Restoration Plan. Following completion of the action strategy the County engaged in collaboration with MDE’s Integrated Water Planning Program staff, as well as University of Maryland Baltimore County (UMBC) staff, to develop a trackback-style monitoring strategy utilizing passive samplers to measure time-integrated freely dissolved PCB water column concentration to further investigate watershed sources of PCB. An agreement was reached in which MDE would provide funding for field personnel, while UMBC would provide training, materials and analysis towards the monitoring effort.

Phase 1 of the monitoring effort began in September 2020 with the deployment of passive surface water PCB sampling devices at 17 locations within the Baltimore Harbor PCB TMDL watershed, as well as two reference locations outside of the TMDL watershed. In November 2020, sediment grab samples were also collected at each of the 19 sites. In early December 2020,

the passive samplers were retrieved. Analysis of both surface water and sediment samples will be conducted by UMBC staff at the UMBC lab within one month of sample collection. At the conclusion of the Phase 1 portion of the monitoring effort, UMBC will prepare a technical memo summarizing and interpreting the data. Results of the 2020 sampling will be used to determine Phase II sampling locations in a focused effort to identify geographic sources of PCBs. The technical memo, including results of the Phase 1 sampling, will be included in the 2021 Update on Progress Toward Meeting the Baltimore Harbor PCB TMDL WLA document.