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

Mr. D. Lee Currey, Director
Water and Science Administration
Maryland Department of the Environment (MDE)
Montgomery Park
1800 Washington Blvd., Ste. 4502
Baltimore, MD 21230-1718

Dear Mr. Currey:

The U.S. Environmental Protection Agency, Region III (EPA) reviewed the report *Water Quality Analyses (WQA) for Zinc in the Middle Harbor and Curtis Bay/Creek Portions of Patapsco River Mesohaline Chesapeake Bay Tidal Segment in Baltimore City, Baltimore County, and Anne Arundel County, Maryland*, which was submitted by the Maryland Department of the Environment (MDE) for final review on November 19, 2021. MDE identified the entire PATMH Chesapeake Bay Tidal Segment (Integrated Report Assessment Unit ID: PATMH) on the State's 2018 Integrated Report as impaired by nutrients (nitrogen & phosphorus) (1996), total suspended solids (TSS) (1996), and impacts to biological communities (2004). The Curtis Bay/Creek portion of the PATMH Chesapeake Bay Tidal Segment has been identified as impaired by polychlorinated biphenyls (PCBs) (1998) and Zinc (Zn) in sediment (1998). The Middle Harbor portion of the PATMH Chesapeake Bay Tidal Segment has been identified as impaired by Zn in sediment (1998) (MDE 2018). A PCB TMDL for the Curtis Bay/Creek portion of the PATMH Chesapeake Bay Tidal Segment was approved by EPA on October 1, 2012. The Chesapeake Bay TMDL, which was established by the EPA on December 29, 2010, addressed the nutrient and TSS listings for the PATMH Chesapeake Bay Tidal Segment. The listing for impacts to biological communities in the PATMH Chesapeake Bay Tidal Segment will be addressed separately at a future date.

EPA agrees that MDE's analysis of the data shows that a TMDL for Zn is not necessary to achieve water quality standards in Middle Harbor or Curtis Bay/Creek. An analysis of recent sediment quality data from Middle Harbor and Curtis Bay/Creek used the sediment quality triad approach, incorporating an evaluation of sediment chemistry, sediment toxicity, and benthic community health data to demonstrate that aquatic life in sediments is not adversely impacted by Zn. The sediment quality evaluation established that Zn contamination within the sediments of the Middle Harbor and Curtis Bay/Creek is either not bioavailable to aquatic life or is at levels that will not cause adverse impacts. In addition, an analysis of water quality data demonstrates that aquatic life in the overlying water column is not adversely impacted by Zn that may leach out of the sediment.

EPA agrees that MDE's analysis shows that the water column is not impaired for zinc. Based on MDE's Integrated Report Toxics Assessment Methodology, a waterbody is impaired if there is more than one exceedance of the chronic aquatic life criterion in a three-year period with a minimum of 10 samples (MDE 2019). Dissolved water column Zn concentrations in Curtis Bay/Creek ranged between "below detectable limit" and 13 (µg/L), which is less than the applicable saltwater aquatic life chronic Zn criterion of 81 µg/L.

Thank you for the opportunity to review the WQA. If you have questions regarding this letter, please do not hesitate to contact me at 215-814-2737, or have your staff contact Mr. Hunter Pates, Maryland TMDL Coordinator, at 215-814-3385 or pates.hunter@epa.gov.

Sincerely,

CATHERINE LIBERTZ Digitally signed by CATHERINE LIBERTZ
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Catherine A. Libertz, Director
Water Division

cc: Melissa Chatham, MDE-WSA