



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

Mr. D. Lee Currey, Director
Science Services Administration
Maryland Department of the Environment
1800 Washington Blvd., Suite 540
Baltimore, Maryland 21230-1718

JAN 30 2013

Dear Mr. Currey:

The U.S. Environmental Protection Agency (EPA), Region III, has reviewed the report *Water Quality Analysis of Copper in the Bodkin Creek portion of the Patapsco River Mesohaline Chesapeake Bay Segment, Anne Arundel County, Maryland*, which was submitted by the Maryland Department of the Environment (MDE) for final review on September 26, 2012. MDE has identified the Patapsco River Mesohaline (PATMH) Tidal Chesapeake Bay Segment (Integrated Report Assessment Unit: PATMH) on Maryland's 2012 Integrated Report as impaired by nutrients -- nitrogen and phosphorus (1996), sediments -- total suspended solids (1996), and impacts to biological communities (2004). The Bodkin Creek portion of the PATMH Tidal Chesapeake Bay Segment (Integrated Report Assessment Unit: MD-PATMH-Bodkin_Creek) was individually identified on the 2012 Integrated Report as impaired by nutrients -- nitrogen and phosphorus (1996), copper (Cu) (1996), lead (Pb) (1996), and zinc (Zn) (1996). This water quality analysis (WQA) addresses only the 1996 Cu listing for the Bodkin Creek portion of the Patapsco River Mesohaline Chesapeake Bay Segment (also referred to as an embayment). The nutrient listings for the Bodkin Creek embayment have been addressed through the Chesapeake Bay Total Maximum Daily Load (TMDL), which was approved by EPA on December 29, 2010, and a WQA for Pb and Zn in the Bodkin Creek embayment was approved by EPA on February 20, 2009. The sediment listing for the PATMH Tidal Chesapeake Bay Segment was also addressed via the Chesapeake Bay TMDL. The listing for impacts to biological communities in the PATMH Tidal Chesapeake Bay Segment will be addressed separately at a future date.

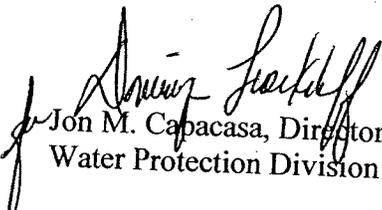
EPA agrees with MDE's analysis of the data that shows that the Bodkin Creek embayment is not impaired and consequently, a Cu Total Maximum Daily Load is not necessary. The Bodkin Creek embayment Cu impairment was evaluated by doing a comparison of dissolved water column Cu concentrations and the saltwater aquatic life chronic Cu criterion. The saltwater aquatic life chronic criterion was used because it was determined to be more stringent than the freshwater aquatic life chronic criterion (adjusted for water column hardness). The comparison demonstrated that water column Cu concentrations never exceeded the acute criterion in all samples and exceeded the chronic criterion in only 10 percent of the samples. The

samples that exceeded the aquatic life chronic Cu criterion did not occur more than once at any monitoring station or monitoring stations adjacent to one another within the embayment.

Maryland's current water quality standards do not include criteria for toxic substances and/or metals concentrations in sediments. However, ambient sediment bioassays were conducted for this analysis to assess whether or not toxic contaminant/metals concentrations in the Bodkin Creek sediments adversely impact aquatic life. Results of these tests found that sediments do not exhibit signs of toxicity, and thus the toxic contaminant/metal concentrations in the sediments are not contributing to a reduction in the survival, growth, or reproduction of test organisms.

Thank you for the opportunity to review the WQA. If you should have any questions, please contact Mrs. Helene Drago, TMDL Program Manager, at 215-814-5796.

Sincerely,


Jon M. Capacasa, Director
Water Protection Division

cc: Melissa Chatham, MDE-SSA