UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029
2/21/2007

Dr. Richard Eskin, Ph. D., Director
Technical and Regulatory Services Administration
Maryland Department of the Environment
1800 Washington Boulevard, Suite 450
Baltimore, MD 21230

Dear Dr. Eskin:

The U.S. Environmental Protection Agency (EPA), Region III, has reviewed the report, "Water Quality Analysis of Eutrophication for the Middle Patuxent River, Howard County, Maryland," which was submitted by the Maryland Department of the Environment (MDE) for final Agency review on December 1, 2006.

EPA agrees with MDE's determination that recent data show that nutrient Total Maximum Daily Loads (TMDL) are not necessary for the Middle Patuxent River. The Middle Patuxent River (basin code 02131106) is a non-tidal watershed and was first listed by Maryland on its 1996 Section 303(d) list of water-quality limited segments as impaired by nutrients, sediments, and metals-zinc. The 2004 listing identified impacts to biological communities as stream impairments. The water quality analysis addresses only the nutrient impairment. The listings for sediments and impacts to biological communities will be addressed separately at a future date. The metals listing will be addressed in 2007.

The water column data collected during October 1999 through April 2002, at 14 monitoring stations shows that dissolved oxygen (DO) concentrations ranged from 4.6 mg/L to 14.50 mg/L. The data shows that only one of the values fell below the criterion of 5 mg/L during the entire sampling period (1.9 % of the monitoring values). Additionally, biological oxygen demand (BOD), chlorophyll *a*, total phosphorus (TP), and total nitrogen (TN) data were collected at four monitoring stations during October 1999 through September 2000, covering the algal growing season. BOD concentrations ranged from 0.1 mg/L to 3.8 mg/L. TP concentrations ranged from 0.01 mg/L to 1.01 mg/L. TN concentrations ranged from and 1.99 mg/L to 3.75 mg/L. Chlorophyll *a* concentrations were low and did not reach levels higher than 7.6 µg/L. The low chlorophyll *a* concentrations found in Middle Patuxent River suggest that chlorophyll *a* photosynthesis and respiration will not have a significant effect on observed DO values.

If future evidence suggests that nutrients deriving from the Middle Patuxent River Watershed are contributing to water-quality problems, then MDE will need to readdress the nutrient impairment.

If you have any questions or comments regarding these reports, please contact Mr. Thomas Henry, TMDL Program Manager, at (215) 814-5752.

Sincerely,

Signed
Jon M. Capacasa, Director
Water Protection Division

cc: Melissa Chatham, MDE-TARSA
Nauth Panday, MDE-TARSA