



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

November 15, 2006

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 Metals in Upper North Branch Potomac River, Garrett County, Maryland," which was submitted by the Maryland Department of the Environment (MDE) for final Agency review on September 5, 2006.

The Upper North Branch Potomac River (8-digit basin, basin code 02-14-10-05) was first listed by Maryland on its 1996 Section 303(d) list of water-quality limited segments as impaired by metals, nutrients, sediments, and low pH. The 2002/2004 listing identified impacts to biological communities as stream impairments. The listings for low pH and impacts to biological communities will be addressed separately at a future date. The listings for nutrients and sediments are being addressed in 2006.

EPA agrees with MDE's determination that the recent data show that arsenic, cadmium, chromium, copper, nickel, lead, selenium, silver, and zinc Total Maximum Daily Loads (TMDLs) are not necessary for the Upper North Branch Potomac River watershed. Because their toxicity and bioavailability is a function of hardness, copper, lead, cadmium, nickel, and zinc water quality criteria were adjusted using the hardness adjustment formula. For all samples, hardness ranged from 32.7 mg/L to 784.5 mg/L. The cadmium, copper, nickel, lead, and zinc concentration ranges were well below their respective fresh water aquatic life chronic hardness adjusted criteria. Selenium, arsenic, chromium, and silver water quality criteria are not impacted by hardness and therefore were not analyzed using the hardness adjustment formula. The arsenic, chromium, selenium, and silver concentration ranges were well below their respective fresh water aquatic life chronic criteria.

However, monitoring results did indicate aluminum, manganese, and iron exceedances in three sub-watersheds (12-digit basins): Laurel Run (02-14-10-05-0039), Sand Run (02-14-10-05-0040), Elklick Run (02-14-10-05-0049), and Three Forks Run (02-14-10-05-0048). The water column data collected in October 2004 and May 2005 at 19 monitoring stations throughout the Upper North Branch Potomac River watershed revealed water quality criteria exceedances in



the tributaries. These included manganese in Laurel Run, Sand Run, Three Forks Run, and Ellick Run; aluminum in Three Forks Run and Laurel Run; and Iron in Sand Run, Laurel Run, Three Forks Run, and in the Upper North Branch Potomac River main stem above Jennings Randolph Lake. Aluminum, manganese, and iron water quality criteria were not adjusted for hardness because their toxicity does not depend on it. Table 6 of the water quality analysis summarizes the number and type of exceedances per pollutant for each sub-watershed. Similarly, Table 8 of the water quality analysis assigns each pollutant/waterbody combination to the appropriate category for future Integrated Report and Section 303(d) listings.

Furthermore, an ambient sediment bioassay conducted in Upper North Branch Potomac River watershed by the University of Maryland Wye Research Center in October 2004, established that there was no toxicity in the sediment as a result of metals contamination. The bioassay toxicity tests indicated that it is unlikely that metals impact survival and growth.

If future evidence suggests that metals deriving from the Upper North Branch Potomac River watershed are contributing to water-quality problems, then MDE will need to readdress the metals impairments.

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

2/21/2007

Errata: 1. Four sub-watersheds demonstrated metals exceedances, not three.

