Technical Memorandum

Significant Phosphorus and Sediment Point Sources in the Triadelphia Reservoir and Rocky Gorge Reservoir Watersheds

The U.S. Environmental Protection Agency requires that Total Maximum Daily Load (TMDL) allocations account for all significant sources of each impairing pollutant. This technical memorandum identifies, in detail, the significant surface water discharges of phosphorus (TP) in the Triadelphia and Rocky Gorge Reservoir watersheds and sediment in the Triadelphia Reservoir watershed used in computing the TMDLs. The Maryland Department of the Environment (MDE) expressly reserves the right to allocate the TMDLs among different sources in any manner that is reasonably calculated to achieve water quality standards.

Waste load allocations (WLAs) have been made to NPDES-regulated wastewater treatment plants (WWTP), and municipal separate stormwater dischargers (MS4) in the Triadelphia and Rocky Gorge Reservoir watersheds. There are no wastewater treatment plants contributing phosphorus or sediment loads in the Triadelphia Reservoir watershed and the Federal Emergency Management Agency (FEMA) WWTP is the only wastewater treatment plant contributing phosphorus in the Rocky Gorge Reservoir watershed. Two MS4s discharge phosphorus and sediment to the Triadelphia Reservoir watershed: Howard County and Montgomery County. These same two MS4s, as well as Prince George's County, also discharge phosphorus to the Rocky Gorge Reservoir watershed.

A WLA to the FEMA WWTP has been made based on permitted flow and concentrations. Howard County, Montgomery County, and Prince George's County are all covered under NDPES Phase I stormwater permits. Annual WLAs have been made to these stormwater dischargers based on the Patuxent River Watershed HSPF Model. The WLAs assigned to the counties include any other NPDES-regulated stormwater dischargers in those counties that are not operating under the county MS4 permits. The stormwater phosphorus and sediment loads account for contributions from developed land. The land use information was based on 1997 Maryland Department of Planning data.

Table 1A shows the allocation of total phosphorus and sediment loads attributed to point sources in the Triadelphia Reservoir watershed. Table 1B shows the allocation of total phosphorus attributed to point sources in the Rocky Gorge Reservoir watershed.

Table 1A
Total Phosphorus and Sediment Loads Attributed to Point Sources in the Triadelphia Reservoir Nutrient and Sediment TMDLs

Point Source Name	Permit Number			Flow (MGD)	Concentration (mg/l)	
		TP (lbs/year)	Sediment (tons/year)		TP	Sediment
Howard County	MD0068322	4,672	354			
Montgomery County	MD0068349	616	47			
Total		5,288	400			

Table 1B
Total Phosphorus Loads Attributed to Point Sources in the Rocky Gorge Reservoir Nutrient TMDLs

Point Source Name	Permit Number	Nutrient Loads (lbs/year)	Flow (MGD)	Concentration (mg/l)
		TP		TP
FEMA WWTP	MD0025666	182	0.01	6.0 mg/l
Howard County	MD0068322	1,512		
Montgomery County	MD0068349	5,581		
Prince George's County	MD0068284	154		
Total		7,429		