

Department of Natural Resources and Environmental Control

Division of Water Resources

Statutory Authority: 7 Delaware Code, Chapter 60

Amendment of the 2001 Total Maximum Daily Loads (TMDLs) for the Murderkill River Watershed, Delaware

A. INTRODUCTION and BACKGROUND

On December 2001, the Cabinet Secretary of the Delaware Department of Natural Resources and Environmental Control (DNREC) issued Order No. 2001-A-0044 adopting a Total Maximum Daily Loads (TMDLs) Regulation for nutrients and oxygen consuming compounds for the entire Murderkill River Watershed. The TMDLs, which are developed in compliance with requirements of Section 303(d) of the Clean Water Act (CWA), establish maximum amounts of pollutants that can be discharged to a waterbody from point and nonpoint sources while maintaining water quality standards. The TMDLs include Waste Load Allocations (WLAs) for point sources, Load Allocations (LAs) for nonpoint sources, and a Margin of Safety (MOS).

Following adoption of the Murderkill River TMDLs Regulation in December 2001, Kent County Levy Court, which owns and operates the Kent County Facility, appealed the TMDLs Regulation for the lower Murderkill River to the State Environmental Appeal Board and State Superior Court. As a result of settlement negotiations, which have been concluded, and additional technical studies, the Department concluded that the original hydrodynamic and water quality WASP5 model of the Murderkill River needed to be refined. Following refinement of the WASP5 model and evaluation of several loading scenarios, DNREC is amending the 2001 TMDLs Regulation.

B. The Amended Total Maximum Daily Loads (TMDLs) Regulation for the Murderkill River Watershed, Delaware

- Article 1. The total nitrogen waste load from the Kent County Facility and Canterbury Crossing Mobile Home Park shall be limited to 755.3 pounds per day. The waste load allocation for the Kent County Facility will be 751 pounds per day and for Canterbury Crossing Mobile Home Park will be 4.3 pounds per day.
- Article 2. The total phosphorus waste load from the Kent County Facility and Canterbury Crossing Mobile Home Park shall be limited to 62.7 pounds per day. The waste load allocation for the Kent County Facility will be 62.5 pounds per day and for Canterbury Crossing Mobile Home Park will be 0.2 pounds per day.
- Article 3. The CBOD5 (5-day Carbonaceous Biochemical Oxygen Demand) waste load from the Kent County Facility and Canterbury Crossing Mobile Home Park shall

be limited to 1010.6 pounds per day. The waste load allocation for Kent County Facility will be 1001 pounds per day and for Canterbury Crossing Mobile Home Park will be 9.6 pounds per day.

- Article 4. Treated wastewater from the City of Harrington wastewater treatment facility shall be used for spray irrigation. However, during the winter season, as well as during wet weather periods, when spray irrigation of treated wastewater is not practical, the effluent may be discharged into Browns Branch. During periods of surface discharge, the maximum discharge flow rate shall not exceed 750,000 gallons per day and daily waste loads shall not exceed 140 pounds per day for total nitrogen, 0.75 pounds per day for total phosphorus, and 37.5 pounds per day for CBOD5. Furthermore, the total annual waste load discharged from the City of Harrington wastewater treatment facility to the surface waters of Browns Branch shall not exceed 9125 pounds per year for total nitrogen, 55 pounds per year for total phosphorus, and 3000 pounds per year for CBOD5.
- Article 5. The nonpoint source nitrogen load in the entire watershed shall be reduced by 30 percent (from the 1997 base-line). This shall result in a yearly-average total nitrogen load of 560 pounds per day.
- Article 6. The nonpoint source phosphorus load in the entire watershed shall be reduced by 50 percent (from the 1997 base-line). This shall result in a yearly-average total phosphorous load of 96 pounds per day.
- Article 7. Based upon hydrodynamic and water quality model runs and assuming implementation of reductions identified by Articles 1 through 6, DNREC has determined that, with an adequate margin of safety, water quality standards and nutrient targets will be met in the Murderkill River and its tributaries and ponds.
- Article 8. Implementation of this TMDL Regulation shall be achieved through development and implementation of a Pollution Control Strategy. The Strategy will be developed by DNREC in concert with the Murderkill River Tributary Action Team, other stakeholders, and the public.