7400 Watershed Assessment Section

7419 TMDLs for the Cedar Creek Watershed, Delaware

1.0 Introduction and Background

Water quality monitoring performed by the Department of Natural Resources and Environmental Control (DNREC) has shown that the waters of Cedar Creek and several of its tributaries and ponds are impaired by high levels of bacteria and elevated levels of the nutrients nitrogen and phosphorous, and that the designated uses are not fully supported due to levels of these pollutants in these waterways.

Section 303(d) of the Federal Clean Water Act (CWA) requires States to develop a list (303(d) List) of waterbodies for which existing pollution control activities are not sufficient to attain applicable water quality criteria and to develop Total Maximum Daily Loads (TMDLs) for pollutants or stressors causing the impairment. A TMDL sets a limit on the amount of a pollutant that can be discharged into a waterbody and still protect water quality. TMDLs are composed of three components, including Waste Load Allocations (WLAs) for point source discharges, Load Allocations (LAs) for nonpoint sources, and a Margin of Safety (MOS).

DNREC listed Cedar Creek on several of the State's 303(d) Lists and proposes the following Total Maximum Daily Loads regulation for nitrogen, phosphorous, and *enterococcus* bacteria.

2.0 Total Maximum Daily Loads (TMDLs) Regulation for Cedar Creek

Article 1. The nonpoint source nitrogen load in the entire Cedar Creek watershed shall be reduced by 45 percent from the 2001-2003 baseline level. This shall result in a yearly-average total nitrogen load of 587.6 pounds per day.

Article 2. The nonpoint source phosphorous load in the entire Cedar Creek watershed shall be reduced by 45 percent from the 2001-2003 baseline level. This shall result in a yearly-average total phosphorous load of 23.25 pounds per day.

Article 3. The nonpoint source *enterococcus* bacteria load in the entire Cedar Creek watershed shall be reduced by 96 percent from the 2001-2003 baseline level. This shall result in a yearly-mean *enterococcus* bacteria load of 7.15E+10 colony forming units (CFU) per day.

Article 4. Based upon water quality model runs and assuming implementation of reductions identified by Article 1 through Article 3 above, DNREC has determined that, with an adequate margin of safety, water quality standards will be met in the Cedar Creek.

Article 5. Implementation of this TMDLs Regulation shall be achieved through the development and implementation of a Pollution Control Strategy. The Strategy will be developed by DNREC in concert with the Tributary Action Teams, other stakeholders, and the public.

10 DE Reg. 1038 (12/01/06)