# DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

## DIVISION OF WATER RESOURCES

Statutory Authority: 7 Delaware Code, Chapter 60 (7 **Del.C**. Ch. 60)
7 **DE Admin. Code** 7417, 7421, 7422, 7425 and 7426

## FINAL

**Secretary's Order No. 2006-W-0050**

**Approving Final Regulations for Total Maximum Daily Loads for the Blackbird Creek, Leipsic River, Little Creek, Smyrna River and St. Jones River Watersheds**

Date of Issuance: November 14, 2006
Effective Date: December 11, 2006

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") under 29 **Del.C.** §§8001 et seq., 29 **Del.C.** §§10111 *et seq*. and 7 **Del.C.** §6010 (a), the following findings, reasons and conclusions are entered as an Order of the Secretary in the above-referenced rulemaking proceeding.

Based on the record, including the public hearing record reviewed in the November 6, 2006, Hearing Officer's Report ("Report"), attached as Appendix A, I find that the proposed regulations are well supported and are not arbitrary or capricious. The Report reviews and summarizes the combined public hearing record, including the August 24, 2006, public hearing. The Report recommends approval of the proposed regulations as final regulations without modification. I agree with the Report and adopt it as part of this Order along with its reasons.

The proposed regulations are based upon sound scientific evidence, are consistent with state and federal law, and are a reasoned exercise of the Department's authority to issue regulations to improve water quality. The improvements will occur through the Total Maximum Daily Loads ("TMDLs"), which will regulate the release of harmful levels of nitrogen, phosphorous and bacteria into the waters within each watershed. The TMDLs will reduce the harmful pollutants to levels that the Department's experts have determined are necessary to improve the quality within these waters to the existing water quality standards. The TMDLs will allow the Department to establish Pollution Control Strategy for the watersheds. Thus, these TMDLs are an important part of a multi-step federal and state regulatory process that will result in the waters within theses five watershed from attaining the clean water standards.

The Report notes the public comments, including comments submitted by the Mid-Atlantic Environmental Law Clinic ("MAELC"). The Department welcomes the comments. Some of the comments were instrumental in making some changes to the technical support documents, but not to the final proposed regulations because the changes to the technical support documents did not change the TMDLs set forth in the proposed regulations. The Department encourages MAELC to work with the Department's experts towards assisting in the development of the best possible TMDLs for the common goal of improving Delaware's water quality. The promulgation of the final regulations will satisfy the federal court's consent decree.

In conclusion, the following findings and conclusions are entered:

1. The Department, acting through this Order of the Secretary, adopts the proposed regulations as final regulations, as set forth in the Appendix A to the Report, under 29 **Del.C**. §6010 (a) and pursuant to the federal Clean Water Act, *33 U.S.C §1251 et seq.* and the United States Environmental Protection Agency's regulations pursuant to the Clean Water Act;

2. The issuance of the proposed regulations as final regulations will protect and improve the water quality of the Blackbird Creek, Leipsic River, Little Creek, Smyrna River and St. Jones River watersheds, as defined by elevation maps, and allow Pollution Control Strategies to be developed for them;

3. The TMDLs that are approved by this Order were developed consistent with the applicable law and regulatory standards, and are adequately supported by expert technical analysis;

4. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations, held a public hearing in a manner required by the law and regulations,

and considered all timely and relevant public comments in making its determination;

5. The Department's proposed regulations, as published in the August 1, 2006, *Delaware Register of Regulations,* and set forth in Appendix A to the Report, are adequately supported, not arbitrary or capricious, are consistent with the applicable laws and regulations, and should be approved as final regulations to go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and that;

6. The Department shall provide written notice to the persons affected by the Order, as determined by those who participated in this rulemaking at either the public workshop or at the public hearing, including participation through the submission of timely and relevant written comments.

John A. Hughes
Secretary

## 7417 Total Maximum Daily Loads (TMDLs) for the Blackbird 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 Blackbird 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 Blackbird 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 Blackbird Creek

Article 1. The nonpoint source nitrogen load in the entire Blackbird Creek watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total nitrogen load of 175.5 pounds per day.

Article 2. The nonpoint source phosphorous load in the entire Blackbird Creek watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total phosphorous load of 19.97 pounds per day.

Article 3. The nonpoint source *enterococcus* bacteria load in the entire Blackbird Creek watershed shall be reduced by 80 percent from the 2002-2003 baseline level. This shall result in a yearly-mean *enterococcus* bacteria load of 4.67E+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 Blackbird 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.

## 7421 Total Maximum Daily Loads (TMDLs) for the Leipsic River 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 Leipsic River 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 Leipsic River 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 Leipsic River**

Article 1. The nonpoint source nitrogen load in the entire Leipsic River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total nitrogen load of 559.4 pounds per day.

Article 2. The nonpoint source phosphorous load in the entire Leipsic River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total phosphorous load of 61.98 pounds per day.

Article 3. The nonpoint source *enterococcus* bacteria load in the entire Leipsic River watershed shall be reduced by 75 percent from the 2002-2003 baseline level. This shall result in a yearly-mean *enterococcus* bacteria load of 1.08E+11 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 Leipsic River.

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.

## 7422 Total Maximum Daily Loads (TMDLs) for the Little 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 Little 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 Little 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 Little Creek**

Article 1. The nonpoint source nitrogen load in the entire Little Creek watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total nitrogen load of 101.5 pounds per day.

Article 2. The nonpoint source phosphorous load in the entire Little Creek watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total phosphorous load of 11.21 pounds per day.

Article 3. The nonpoint source *enterococcus* bacteria load in the entire Little Creek watershed shall be reduced by 75 percent from the 2002-2003 baseline level. This shall result in a yearly-mean *enterococcus* bacteria load of 1.11E+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 Little 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.

## 7425 Total Maximum Daily Loads (TMDLs) for the Smyrna River 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 Smyrna River 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 Smyrna River 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 Smyrna River

Article 1. The nonpoint source nitrogen load in the entire Smyrna River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total nitrogen load of 742.2 pounds per day.

Article 2. The nonpoint source phosphorous load in the entire Smyrna River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total phosphorous load of 57.8 pounds per day.

Article 3. The nonpoint source *enterococcus* bacteria load in the entire Smyrna River watershed shall be reduced by 75 percent from the 2002-2003 baseline level. This shall result in a yearly-mean *enterococcus* bacteria load of 1.74E+11 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 Smyrna River.

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.

## 7426 Total Maximum Daily Loads (TMDLs) for the St. Jones River 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 St. Jones River 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 St. Jones River 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 St. Jones River**

Article 1. The total nitrogen load from the two point source facilities in the watershed (Dover McKee Run and Reichhold Chemicals) shall be limited to 9.2 pounds per day. The nitrogen waste load allocation for Dover McKee Run will be 7.7 pounds per day and for Reichhold Chemicals will be 1.5 pounds per day.

Article 2. The total phosphorous load from the two point source facilities in the watershed (Dover McKee Run and Reichhold Chemicals) shall be limited to 0.37 pounds per day. The phosphorous waste load allocation for Dover McKee Run will be 0.24 pounds per day and for Reichhold Chemicals will be 0.13 pounds per day.

Article 3. The *enterococcus* bacteria load from the two point source facilities in the watershed (Dover McKee Run and Reichhold Chemicals) shall be limited to 1.67E+09 colony forming units (CFU) per day. The *enterococcus* bacteria waste load allocation for Dover McKee Run will be 1.1E+09 CFU per day and for Reichhold Chemicals will be 5.7E+08 CFU per day.

Article 4. The nonpoint source nitrogen load in the entire St. Jones River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total nitrogen load of 860.3 pounds per day.

Article 5. The nonpoint source phosphorous load in the entire St. Jones River watershed shall be reduced by 40 percent from the 2002-2003 baseline level. This shall result in a yearly-average total phosphorus load of 63.01 pounds per day.

Article 6. The nonpoint source *enterococcus* load in the entire St. Jones River watershed shall be reduced by 90 percent from the 2002-2003 baseline level. This shall result in a yearly-average *enterococcus* load of 1.63E+11 CFU per day.

Article 7. Based upon water quality model runs and assuming implementation of reductions identified by Article 1 through Article 6 above, DNREC has determined that, with an adequate margin of safety, water quality standards will be met in the St. Jones River.

Article 8. 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.