



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

October 17, 2017

Mr. Robert R Palmer, Acting Director  
Division of Watershed Stewardship  
Delaware Department of Natural Resources  
and Environmental Control  
89 Kings Highway  
Dover, Delaware 19903

Dear Mr. Palmer:

The U.S. Environmental Protection Agency (EPA) has conducted a review of Delaware Department of Natural Resources and Environmental Control's (DNREC) 2016 Section 303(d) List and supporting documentation and information submitted as final on August 29, 2017. Based on this review, EPA has determined that Delaware's list of water quality-limited segments still requiring Total Maximum Daily Loads (TMDLs) meets the requirements of Section 303(d) of the Clean Water Act, 33 U.S.C. §1313(d), and EPA's implementing regulations. Therefore, with this letter, EPA hereby approves Delaware's 2016 Section 303(d) List. The enclosed rationale for approval provides an explanation of the basis for EPA's approval.

EPA appreciates the effort put forth by you and your staff to compile this list and address issues identified during EPA's review. We look forward to the submission and review of future 303(d) Lists and working towards implementing the updated 303(d) Program Vision. If you have any questions, please contact Ms. Evelyn MacKnight, Associate Director, at 215-814-5717 or [macknight.evelyn@epa.gov](mailto:macknight.evelyn@epa.gov) or Ms. Michelle Peck at 215-814-5192 or [peck.michelle@epa.gov](mailto:peck.michelle@epa.gov).

Sincerely,

/s/

Catharine McManus, Acting Director  
Water Protection Division

Enclosure



**RATIONALE FOR EPA APPROVAL OF  
DELAWARE DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
2016 SECTION 303(d) LIST**

**I. Purpose**

The purpose of this document is to describe the rationale for the U.S. Environmental Protection Agency's (EPA) approval of Delaware Department of Natural Resources and Environmental Control's (DNREC) 2016 Section 303(d) list. EPA has conducted a complete review of Delaware's 2016 Section 303(d) list and supporting documentation and information. Based on this review, EPA has determined that Delaware's list of water quality limited segments (WQLSs) still requiring Total Daily Maximum Loads (TMDLs) meets the requirements of Section 303(d) of the Clean Water Act (CWA or the Act) and EPA's implementing regulations. Therefore, by this letter, EPA hereby approves Delaware's Section 303(d) list, which is comprised of Consolidated Assessment and Listing Methodology (CALM) Code 5 of Delaware's "Final Determination for the State of Delaware 2016 Clean Water Act Section 303(d) List of Waters Needing TMDLs".

**II. Statutory and Regulatory Background**

**A. Identification of WQLSs for Inclusion on Section 303(d) List**

Section 303(d)(1) of the CWA directs states to identify those waters within their jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters taking into account the severity of the pollution and the uses to be made of such waters (Section 303(d) list). The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long standing interpretation of Section 303(d).

EPA regulations provide that states do not need to identify waters on the Section 303(d) list where the following controls are adequate to implement applicable standards: (1) technology based effluent limitations required by the Act; (2) more stringent effluent limitations required by state or local authority; and (3) other pollution control requirements required by state, local, or Federal authority. See 40 CFR §130.7(b)(1).

Delaware submitted a Combined Watershed Assessment, integrating the former CWA Section 303(d) list and 305(b) report, which identifies the assessment status of all of Delaware's waters. The Combined Watershed Assessment separates the waters of Delaware into five distinct categories. All stream segments or assessment units fall into one or more of the following categories:

- Category 1 – Waters attaining all designated uses.
- Category 2 – Waters where some, but not all, designated uses are met. Attainment status of the remaining designated uses is unknown because data are insufficient to categorize the water.



- Category 3 – Waters for which there are insufficient or no data and information to determine if designated uses are met.
- Category 4 – Waters impaired for one or more designated use, but not needing a TMDL. These waters are placed in one or more of the following three subcategories:
  - Category 4a – TMDL has been completed and approved by EPA.
  - Category 4b – Other required control measures are expected to result in the attainment of WQSs in a reasonable period of time.
  - Category 4c – Not impaired by a pollutant.
- Category 5 – Waters impaired for one or more designated uses by any pollutant and a TMDL is needed. Category 5 constitutes the Section 303(d) list.

**B. Consideration of Existing and Readily Available Water Quality Related Data and Information**

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality related data and information including, at a minimum, consideration of existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state’s most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate non-attainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. See 40 CFR §130.7(b)(5). In addition to these minimum categories, states are required to consider any other data and information that is existing and readily available. EPA’s 1991 Guidance for Water Quality Based Decisions describes categories of water quality related data and information that may be existing and readily available. See *Guidance for Water Quality Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C (EPA’s 1991 Guidance)*. While states are required to evaluate all existing and readily available water quality related data and information, states may decide to rely or not rely on particular data or information in determining whether to list particular waters.

In addition to requiring states to assemble and evaluate all existing and readily available water quality related data and information, EPA regulations at 40 CFR §130.7(b)(6) require states to include, as part of their submissions to EPA, documentation to support decisions to rely or not rely on particular data and information, and decisions to list or not list waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region. As described in more detail below, Delaware’s 2016 Combined Watershed Assessment submission (including the Section 303(d) list as Category 5) identified the state’s assessment methodologies and included documentation to support decisions to list or not list waters in certain categories.



## **C. Priority Ranking**

EPA regulations also codify and interpret the requirement in Section 303(d)(1)(A) of the Act that states establish a priority ranking for listed waters. The regulations at 40 CFR §130.7(b)(4) require states to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, states must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. As long as these factors are taken into account, the Act provides that states establish priorities for TMDL development. States may consider other factors relevant to prioritizing the waters for TMDL development, including: immediate programmatic needs; vulnerability of particular waters with regard to aquatic habitats and recreational, economic, or aesthetic importance of particular waters; degree of public interest and support; and state or national policies and priorities. See 57 FR §33040, 33045 (July 24, 1992), and EPA's 2006 Guidance.

## **III. Analysis of Delaware's Submission**

### **A. Identification of Waters and Consideration of Existing and Readily Available Water Quality Related Data and Information**

EPA has reviewed Delaware's submission, and has concluded that the state developed its Section 303(d) list in compliance with Section 303(d) of the Act and 40 CFR §130.7. EPA's review is based on its analysis of whether the state reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed. EPA also considered the additional information and documents regarding Delaware's submission from other organizations.

### **B. Description of the methodology used to develop the list (CFR §130.7(b)(6)(I))**

Delaware's 2016 303(d) list was developed using all existing and readily available data. In Delaware, DNREC's Water Resources Division is responsible for the collection and compilation of this information. For the 2016 assessment, DNREC considered data and information received on or before November 13, 2015, from the following sources:

- Reports prepared to satisfy CWA Sections 305(b), 303(d) and 314 and any updates;
- Reports of ambient water quality data including state ambient water quality monitoring programs, citizen volunteer monitoring programs, complaint investigations, and other readily available data sources (e.g., STORET, USGS and research reports), and data and information provided by the public;
- Fish and shellfish advisories;
- Restrictions on water sports or recreational contact.

In addition, electronic mail requests are made of specific organizations. DNREC coordinated with the Delaware River Basin Commission (DRBC) and incorporated the



most recent use attainment determinations made by DRBC for the shared waters of the Delaware River and Delaware Bay. DNREC also incorporated the most recent use attainment determinations assessed by EPA's Chesapeake Bay Program for waters of the state that use criteria developed by that program for waters that drain to the Chesapeake Bay.

Water quality and biological data for Delaware's surface waters are collected under DNREC's Ambient Surface Water Quality Monitoring Program and Biological Monitoring Program. The Department routinely collects water quality samples at about 134 stations throughout the state. DNREC's data is considered for use if it is collected and analyzed in accordance with the DNREC Environmental Laboratory Section (ELS) Quality Assurance Project Plan. For data from sources other than the DNREC ELS, DNREC will consider the quality controls used in collection and analysis to determine if it will be appropriate for use in the assessment.

The 303(d) list was developed using water quality analysis and designated use support findings data from the period of January 1, 2010, through December 31, 2014. For waters of Exceptional Recreational or Ecological Significance (ERES), data from calendar years 1998-2014 were assessed for trends.

The availability of the Tentative Determination for Delaware's 2016 303(d) List was announced to stakeholders on July 27, 2016, via electronic mail, and copies of the determination were available from DNREC's website or by contacting DNREC. A 30-day public comment period was provided. Notice of availability of the Tentative Determination was also published in the Delaware State News and the News Journal starting on August 21, 2016 and August 22, 2016, respectively.

EPA submitted general and specific comments to DNREC by mail dated September 1, 2016 and February 6, 2017. DNREC responded to each of EPA's comments in electronic correspondence.

On August 29, 2017, EPA received Delaware's final 2016 Combined Watershed Assessment. EPA has reviewed Delaware's description of the data and information considered in the listing process, biological and chemical data collected by the DNREC, DRBC, CBP, and citizen monitoring groups, and its methodology for identifying waters. EPA concludes that the state properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR §130.7(b)(5). EPA notes that DNREC works closely with Delaware's citizen monitoring groups and that all data submitted was in an acceptable form. The citizen monitoring data used is included as Appendix Four of the report. Data submitted by citizen monitoring groups were collected at sites already determined to be impaired by DNREC in previous Integrated Reports.

One segment in Red Clay Creek, waterbody ID DE260-001, was listed in 2014 in Category 3 for dichlorodiphenyltrichloroethane (DDT). DDT levels at the state line exceed human health and aquatic life criteria and decline downstream, indicating sources are possibly in Pennsylvania. The Department sampled extensively in the Delaware



portion of the basin in 2014-2016 as part of the Watershed Approach to Toxics Assessment and Restoration (WATAR) process and concluded that DDT enters the Red Clay Creek through sources in Pennsylvania. Based on its findings, DNREC has chosen to retain the Category 3 listing despite water quality criteria exceedances, however DNREC has updated its fish consumption advisory for Red Clay Creek, in part, to account for the elevated DDT. EPA maintains, as mentioned in the 2014 IR approval, that this segment should be listed on Category 5 for the 2016 assessment cycle based on any exceedances of the human health and/or aquatic life criteria. Impaired segments should be identified on Delaware's 303(d) list regardless of the pollutant sources. EPA commented on Pennsylvania's 2016 Integrated Report in regards to this issue. Pennsylvania Department of Environmental Protection (PADEP) committed to working with DNREC to identify source(s) of DDT in the water column and fish tissues in Red Clay Creek along with possible TMDL or alternative development if needed. EPA suggests DNREC contact PADEP to begin evaluating DDT levels in Red Clay Creek. EPA looks forward to working jointly with DNREC and PADEP to address this issue.

The DRBC Zone 5 of the Delaware River has been listed in Category 3 for iron since 2004. DNREC notes that "surface water levels of iron in the segment sometimes exceed the applicable criterion," and intends to study the system further to determine whether there is a use impairment. EPA has encouraged DNREC to work with DRBC to better characterize the dynamics of iron in the Delaware River. Category 3 listings are appropriate for waters that require additional information to make a use attainment determination. EPA looks forward to evaluating DNREC's study results that assesses use attainment of Delaware River Zone 5.

In addition, Delaware provided its rationale for not relying on particular existing and readily available water quality related data and information as a basis for identifying waters as part of the Section 303(d) list (Category 5 of the IR). In its 2016 Assessment, Listing, and Reporting Methodologies Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, Delaware explained the determination process for placing a waterbody on the section 303(d) list, the criteria required for data and/or information submitted to DNREC from outside sources, and logistical details regarding such submittals. DNREC explained that for data from sources other than DNREC, the Department would consider the quality controls used in collection and analysis to determine if it will be appropriate for use in the assessment. Data would be considered readily available if it is in an electronic format that can be imported or exported from a modern spreadsheet or database program like Microsoft Excel, Access, or Quattro Pro. Data that was only available on paper would be considered on a case by case basis given the resources available to convert such data to the more usable electronic format. EPA finds Delaware's screening protocol and criteria described in its 2016 Section 303(d) list narrative to be a reasonable rationale in determining the usage of outside data, as waters listed as "impaired" should be based on scientifically-valid data.

This approval rationale applies to Delaware's Section 303(d) list (Category 5) as published in August 2017. The Combined Watershed Assessment was submitted for EPA approval in its entirety on August 29, 2017.



### **C. Public Participation**

Delaware announced the availability and opportunity to comment on DNREC's Tentative Determination for Delaware's 2016 Section 303(d) List on July 27, 2016, and identified that all comments received on or prior to September 1, 2016, will be considered in developing the Final 2016 Section 303(d) List.

During the process of developing the list, DNREC received comments solely from EPA on September 1, 2016.

### **D. Previously Listed Waterbodies Not Included on the 2016 Section 303(d) List**

Delaware has also demonstrated, to EPA's satisfaction, good cause for not including certain waters on its list. According to Federal regulations at 40 CFR §130.7(b)(6)(iv), a water may be delisted for the following reasons: more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in section §130.7(b)(5); or changes in conditions (e.g., new control equipment, elimination of discharges). As provided in 40 CFR §130.7(b)(6)(iv), EPA requested that Delaware demonstrate good cause for not including such waters.

DNREC has provided documentation through the 2016 305(b) assessment report that water quality conditions have improved and the basis for listing the waters as impaired for the identified pollutant no longer exists. Where waters were previously listed for more than one pollutant or stressor, only those pollutants or stressors that have been determined to have improved were delisted. Although this approval rationale only applies to those waters previously listed as Pollutant CALM Code 5.

### **E. Segments Identified by the State as Impaired by Nonpoint Sources**

Delaware properly listed waters with nonpoint sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all WQLSs still needing TMDLs, regardless of whether the source of impairment is a point and/or nonpoint source. EPA's long standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. In *Pronsolino v. Marcus*, the District Court for the Northern District of California held that Section 303(d) of the CWA authorizes EPA to identify and establish TMDLs for waters impaired by nonpoint sources (*Pronsolino et al. v. Marcus et al.*, 91 F.Supp.2d 1337, 1347 (N.D.Ca. 2000)). See, also, EPA's 1991 *Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists*, Aug. 27, 1997.

### **F. Priority Ranking and Targeting**

EPA reviewed Delaware's priority ranking of listed waters for TMDL development, and concluded that the state properly took into account the severity of pollution and the uses to be made of such waters. Prior to 2008, the priority ranking and schedule for TMDL development in Delaware was influenced by the schedule adopted in the consent decree



which settled the TMDL lawsuit in Delaware (*American Littoral Society and Sierra Club v. EPA*, Civil Action No. 96-591 (SLR)(D.De) – settled August 9, 1997). The requirements of the consent decree were met by December 2006, and TMDLs were established for all impaired streams that were listed on the state’s 1996 303(d) list. EPA agrees that, as to the WQLS included on the 2016 Section 303(d) list, DNREC satisfied the requirement to submit priority ranking.

Delaware has identified, primarily for toxic pollutants, target dates for TMDL development that are supported with the WATAR process.

**G. Coordination with the U.S. Fish and Wildlife Service**

EPA notified the Pennsylvania Field Office of the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), by letters dated August 18, 2016, of the availability of Delaware’s 2016 Integrated Report. EPA provided notification as an informal coordination regarding potential impacts the proposed listings may have on threatened and endangered species. No comments were received from either USFWS or NMFS.

