Rationale for Approval of Delaware's 2012 Section 303(d) List

Introduction

The Environmental Protection Agency (EPA) has conducted a complete review of Delaware's 2012 Section 303(d) list and supporting documentation and information. Based on this review, EPA has determined that the State'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 order, EPA hereby approves Delaware's 2012 Section 303(d) list, which is comprised of Pollutant CALM Code 5 of Delaware's "Final Determination for the State of Delaware 2012 Clean Water Act Section 303(d) List of Waters Needing TMDLs". The statutory and regulatory requirements, and EPA's review of Delaware's compliance with each requirement, are described in detail below.

Statutory and Regulatory Background

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

Section 303(d)(1) of the Act 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. 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 list waters 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 Clean Water Act Section 303(d) List and 305(b) Report, which identifies the assessment status of all of Delaware's waters. The Assessment was prepared in accordance with the July 29, 2005 EPA "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) and 314 of the Clean Water Act" (EPA's 2006 IR Guidance). 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: All designated uses are met.
- Category 2: Some of the designated uses are met but there is insufficient data to determine if remaining designated uses are met.
- Category 3: Insufficient data to determine whether any designated uses are met. Either no data is available or some data is available, but it is insufficient to make a determination.
- Category 4: Water is impaired or threatened but a TMDL is not needed:
    - Category 4A: All TMDLs for this segment have been completed and EPA approved. Class 4A waters have all necessary TMDLs approved, but one or more impairments exist, despite the approved TMDLs.
    - Category 4B: Other required control measures are expected to result in the attainment of WQSs in a reasonable period of time.
    - Category 4C: The impairment or threat is not caused by a pollutant.
- Category 5: Water is impaired or threatened and a TMDL is needed for at least one pollutant or stressor.

As with previous lists, the 2012 list is organized by the major Basins in Delaware as used in the Whole Basin Management Program: Piedmont, Chesapeake Bay, Inland Bays/Atlantic Ocean, Delaware Bay and Delaware Estuary.

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 nonattainment 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. Delaware's 2012 Integrated Report submission 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. See Section 303(d)(1)(A). 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 IR Guidance.

Analysis of Delaware's Submission

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.

Description of the methodology used to develop the list (130.7(b)(6)(I))

Delaware's 2012 Section 303(d) list was developed using all existing and readily available data. In Delaware, the Department of Natural Resources and Environmental Control's (DNREC) Water Resources Division is responsible for the collection and compilation of this information. For the 2012 assessment, DNREC considered data and information received on or before February 15, 2012 from the following sources:

- Reports prepared to satisfy CWA Sections 305(b), 303(d) and 314 and any updates;
- The most recent Section 319(a) nonpoint source assessment;
- 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;
- Reports relative to dilution calculations or predictive models;
- Water quality management plans;
- Superfund Records of Decision;
- Safe Drinking Water Act source water assessments;
- Fish and shellfish advisories;
- Restrictions on water sports or recreational contact

In addition, electronic mail requests are made of specific organizations. DNREC also 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. Several active citizen monitoring programs have also been developed throughout Delaware that augment the data collected by DNREC. 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 is will be appropriate for use in the assessment.

Surface water quality monitoring is conducted in a manner that focuses available resources on the Whole Basin Management concept. The Whole Basin Management Program in Delaware operates on a 5-year rotating basis. This approach enables DNREC to comprehensively monitor and assess the condition of the State environment with due consideration to all facets of the ecosystem. The 303(d) list was developed using water quality analysis and designated use support findings for data from the period of September 1, 2006 through August 31, 2011. For waters of Exceptional Recreational or Ecological Significance (ERES), data from calendar years 1995-2010 were assessed for trends.

The availability of the Tentative Determination for Delaware's 2012 303(d) List was announced to stakeholders on April 5, 2011 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 April 11, 2012.

On February 27, 2012, EPA provided comments on the February 2012 "2012 Assessment, Listing and Reporting Methodologies Pursuant to Sections 303(d) and 305(b) of the Clean Water Act." EPA also provided comments electronically on May 4, 2012 on the tentative determination. EPA's comments on the methodology and tentative determination were addressed in Delaware's final Section 303(d) list package, which was received via electronic mail on April 26, 2013. This submittal also included Delaware's Watershed Assessment Report [305(b)], and the comments and responses to the Tentative Determination for the State of Delaware 2012 Clean Water Act Section 303(d) List.

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 B to the report.

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 listing waters. In its 2012 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 data 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 into 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 2012 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 rational applies to Delaware's Section 303(d) list (Category 5) dated April 2013. The Combined Watershed Assessment was submitted for EPA approval in its entirety on April 26, 2013.

Public Participation

On February 3, 2012, Delaware announced to its stakeholders via electronic mail the availability of its Draft Delaware Assessment Listing Reporting Methodology. EPA provided comments in a letter dated February 27, 2012. Delaware announced the availability of the Draft Core Documents for the 2012 Integrated 305(b)/303(d) Report and List on April 5, 2012. At that time, the State also accepted public comments on the proposed list. To address the comments received for both the methodology and draft core documents a "Comments and Responses Document" was developed (Appendix C of Delaware's Integrated Report).

During the process of developing the list, two organizations, including EPA, provided comment. The Center of Biological Diversity (CBD) was the other commenter. In a letter dated December 22, 2011, CBD requested that DNREC "list coastal waters and Delaware Bay as threatened or impaired water bodies due to ocean acidification under section 303(d) of the Clean Water Act." CBD also specified in their letter which of Delaware's water quality standards (WQS) they felt are not being attained (i.e., numeric marine pH criteria and narrative criteria related to aquatic life designated uses and antidegradation policy; see list in Appendix A) and discussed publications they felt support this conclusion. These publications, along with others, were submitted on a CD as supporting documentation to list these waters. These publications were mainly peer-reviewed, scientific articles.

Delaware's 2012 list did not include these requested waters providing the following reasons: "1. The submission had no Delaware specific data or information, 2. No evidence was submitted showing that Delaware's applicable pH standards were not being attained, and 3. Information submitted related to scientific studies of the Chesapeake Bay are not necessarily applicable in the Delaware Bay."

As described further below, The EPA reviewed the articles submitted by CBD and concurs with Delaware's decision not to list their coastal waters and Delaware Bay as impaired or threatened concerning the WQS specified by CBD. Delaware has identified some coastal bays as impaired for multiple pollutants including bacteria, nutrients and dissolved oxygen. While the EPA recognizes that ocean acidification has the potential to negatively impact aquatic life and the growing body of evidence supporting the relationship between increased levels of atmospheric carbon dioxide and ocean acidification, based on this review, and in accordance with the EPA's regulations and Guidance for 2012 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act (EPA, 2011) and Integrated Reporting and Listing Decisions Related to Ocean Acidification (EPA, 2010), the EPA concurs that none of the articles had sufficient data and/or information to warrant listing Delaware's coastal waters and Delaware Bay as impaired (i.e., not meeting an existing, applicable WQS) or threatened (i.e., currently attaining WQS, but expected to not meet WQS by the next listing cycle) related to these WQS, at this time. The EPA's evaluation leading to this decision is further described below.

The EPA reviewed the articles submitted by CBD to identify potentially relevant data and/or information to assess to Delaware's existing, applicable WQS that CBD assert are not being

attained (see Appendix A to this approval rationale). Articles were flagged as potentially relevant if they were geographically located in or near Delaware's waters, the organisms in the study are species that can be found in Delaware's waters, or they contained ambient water quality data collected in or near Delaware's waters. Flagged articles were then evaluated for sufficient data/information that could be used to determine the attainment status of Delaware's WQS being questioned, including, but not limited to, the sampling location and collection, modeling, and/or analysis methodologies are clearly and completely explained, results are at a scale that can be scientifically reasonably extrapolated, variables examined are expressed for which a WQS exist, the study adequately accounts for natural variability and ecological complexity, and so forth. If sufficient, then EPA examined whether it demonstrated non-attainment of these WQS.
Of the 62 articles submitted by CBD, EPA flagged five articles (references included as Appendix B to this approval rationale) as having potentially relevant data and/or information to assess to Delaware's WQS. After a detailed review of these five articles, EPA concluded that they did not have sufficient data and/or information that could be used to determine the attainment status of these WQS, as described below:

- Green et al 2009. While the species being studied (*Mercenaria mercenaria,* i.e. hard clams) can be found in Delaware's waters, the geographic location of this study was in Maine. Therefore, without supporting ambient water quality/sediment/biological data from (or closer to) Delaware's waters, it is not scientifically reasonable to extrapolate the results from this study to assess the attainment status of Delaware's WQS.

- Hinga 2002. Fig. 1 shows observed pH values versus observed salinity from a series of surveys in Delaware Bay. This dataset was compiled from several different publications from 1980-1990. Although it appears that a few data points were above 8.5, none of the values were below 6.5. Most of the pH values appear to be within the range of Delaware's pH water quality standard. Additionally, the pH data were not provided to Delaware for evaluation and therefore an attainment determination could not be made. The study also indicates that metabolic processes (photosynthesis/respiration) could be driving pH fluctuations. However, this study does not establish natural background versus human-caused changes in pH within Delaware Bay, which would be needed to assess the attainment status of Delaware's pH WQS.

- Jiang et al. 2010. This study estimated aragonite saturation states from pH and dissolved inorganic carbon samples that were collected from coastal waters along the southeastern U.S. continental shelf (from Cape Hatteras, North Carolina to West Palm Beach, Florida) during six research cruises that took place in 2005 and 2006. While this study appeared to be potentially relevant, it would not be scientifically reasonable to spatially extrapolate the results to Delaware's waters, since the study focused on the condition of waters south of Cape Hatteras, North Carolina.

- Miller et al. 2009, Talmage and Gobler 2009, and Waldbusser et al. 2010. These studies were laboratory-based experiments assessing the potential impact of elevated carbon dioxide concentrations/acidification on shellfish that included species that can be found in Delaware's waters (e.g., Eastern oyster, bay scallops, hard clams). However, the use of this type of laboratory data to assess the actual condition of organisms in Delaware's coastal waters and Delaware Bay would not be appropriate since water quality parameters were manipulated, and therefore, may not represent the actual condition in Delaware's waters. More information is needed on the biological condition within the waterbody (e.g., in situ field studies documenting the health of aquatic life populations) or combined field and laboratory experimental studies that are designed to account for natural variability and ecological complexity within a particular system (e.g., Delaware Bay) to determine the attainment status of Delaware's WQS.

- Waldbusser et al. 2010. This study also examined historic pH trends in Chesapeake Bay from 1985 to 2008. While Delaware Bay is geographically near Chesapeake Bay, it would not be appropriate to extrapolate pH trends from Chesapeake Bay to Delaware Bay to assess the attainment status of Delaware's marine pH criteria since these two waterbodies are not physically connected and exhibit physical and hydrological differences.

CBD also commented in their letter that Delaware's marine pH water quality standard is "woefully inadequate to protect marine fauna and flora and the designated uses of waters." The EPA would like to clarify that the 303(d) listing process does not review state water quality standards. State water quality standards are reviewed periodically by the State, such as during their Triennial Review process. Comments regarding the adequacy of the standards should be submitted to the State for inclusion in their review during this process.

CBD stated in their letter that "EPA and the University of Delaware have pH data for Delaware Bay that should be evaluated for the impacts of ocean acidification and other anthropogenic impacts." The limited EPA Region 3 pH data for the Delaware Bay did not contain any pH readings that violated Delaware's water quality standards. CBD did not provide any data from the University of Delaware and it is unknown whether such data exists. The EPA encourages Delaware to reach out to the research community, including the University of Delaware, when soliciting data from the public for their 2014 list, to identify any existing and readily available data and information that could be used to assess any potential ocean acidification-related impairments related to existing WQS.

Waterbodies Delisted from the 2010 Section 303(d) List

Delaware has demonstrated, to EPA's satisfaction, good cause for not including certain waters

on its list. According to the Federal regulation at 40 CFR 130.7(b), 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.

For the waters included on the following table, DNREC has provided documentation through the 2012 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, we are including all 2012 delistings to acknowledge improving water quality in Delaware.

Waterbody ID	Watershed Name	Segment	Pollutant or Stressor	2010 CALM Code
Piedmont				
DE230-001-01	Naamans Creek	Lower Naamans Creek	Nutrients	4a
DE230-001-02	Naamans Creek	North Branch & South Branch	Nutrients	4a
DE300-001-01	Shellpot Creek	Lower Shellpot Creek	Nutrients	4a
DE300-001-02	Shellpot Creek	Upper Shellpot	Nutrients	4a
DE300-001-03	Shellpot Creek	All other tributaries located in the watershed by NOT on the mainstem	Nutrients	4a
DE260-002	Red Clay Creek	Burroughs Run	Nutrients	4a
DE320-002	White Clay Creek	Mill Creek	Nutrients	4a
DE320-004	White Clay Creek	Middle Run	Nutrients	4a
DE120-001	Christina River	Lower Christina River	Nutrients	4a
DE120-002	Christina River	Mid Christina River	Nutrients	4a
DE120-003	Christina River	Upper Christina River	Nutrients	4a
DE120-004-01	Christina River	Lower Christina Creek	Nutrients	4a
DE120-006	Christina River	Upper Christina Creek	Nutrients	4a
DE120-007-01	Christina River	Little Mill Creek and Willow Run	Nutrients	4a
Chesapeake Bay Basin				
DE110-001	Choptank	Tappahanna Ditch	Nutrients	4a
DE110-002	Choptank	Culbreth Marsh Ditch	Nutrients	4a
DE240-004	Nanticoke River	Deep Creek Branch	Bacteria	4a
DE240-004	Nanticoke River	Deep Creek Branch	Nutrients	4a

DE240-005	Nanticoke River	Gravelly Branch	Nutrients	4a
DE240-L02	Nanticoke River	Concord Pond	Nutrients	4a
DE050-006-03	Broad Creek	Raccoon Prong	Nutrients	4a
DE050-L07	Broad Creek	Trap Pond	Nutrients	4a
DE250-001	Pocomoke River	Pokomoke River	Nutrients	4a
Inland Bays/Atlantic Ocean Basin				
DE140-004	Indian River	Indian River	DO	4a
Delaware Bay Basin				
DE020-001	Army Creek	Lower Army Creek	Nutrients	4a
DE020-001	Army Creek	Upper Army Creek	Nutrients	4a
DE020-001	Army Creek	Upper Army Creek	DO	4a
DE270-001-01	Red Lion Creek	Lower Red Lion	Nutrients	4a
DE270-001-02	Red Lion Creek	Upper Red Lion	Nutrients	4a
DE130-001	Dragon Run Creek	Lower Dragon Run Creek	Nutrients	4a
DE130-002	Dragon Run Creek	Upper Dragon Run Creek	Nutrients	4a
DE090-001	Chesapeake & Delaware Canal	C & D Canal	Nutrients	5
DE010-001-01	Appoquinimink River	Lower Appoquinimink River	Nutrients	4a
DE010-001-02	Appoquinimink River	Upper Appoquinimink River	Nutrients	4a
DE010-L01	Appoquinimink River	Noxontown Pond	Nutrients	4a
DE010-L03	Appoquinimink River	Shallcross Lake	Nutrients	4a
DE310-002	Smyrna River	Mill Creek	Nutrients	4a
DE160-L02	Leipsic River	Masseys Mill Pond	Bacteria	4a
DE160-L02	Leipsic River	Masseys Mill Pond	DO	4a
DE160-L02	Leipsic River	Masseys Mill Pond	Nutrients	4a
DE190-001-02	Little River	Upper Little River	Nutrients	4a
DE190-001-03	Little River	Pipe Elm Branch	Nutrients	4a
DE290-003	Saint Jones River	Fork Branch	Nutrients	4a
DE290-L02	Saint Jones River	Silver Lake	Bacteria	4a
DE290-L02	Saint Jones River	Silver Lake	Nutrients	4a
DE210-L06	Mispillion River	Abbotts Mill Pond	DO	4a
DE060-003	Broadkill River	Upper Broadkill River	Bacteria	4a
DE060-003	Broadkill River	Upper Broadkill River	DO	4a
DE060-004	Broadkill River	Round Pole Branch	DO	4a
DE060-005	Broadkill River	Ingrams Branch	DO	4a
DE060-007-01	Broadkill River	Lower Red Mill Branch	Nutrients	4a

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.

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, as well as other relevant factors. 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. The schedule is now influenced by the rotating basin cycle incorporated in the Delaware Whole Basin Management Program. The Whole Basin Management Program has divided the waters in Delaware into five major basins and each basin cycles through assessment and monitoring, model development, TMDL development and pollution control strategy preparation over a five-year schedule. EPA has reviewed the State's identification of WQLSs targeted for TMDL development in the next two years, and concludes that the targeted waters are appropriate for TMDL development in this time frame. Waters slated for TMDL development in the next two years are included in the Category 5 list.

Long Term Schedule of TMDL Development

Delaware's 2012 Section 303(d) incorporates a long-term schedule for TMDL development for all waters on the State's list. As a policy matter, EPA has requested that states provide such schedules (see memorandum from Robert Perciasepe, Assistant Administrator for Water, to Regional Administrators and Regional Water Division Directors, "New Policies for Developing and Implementing TMDLs", August 8, 1997). With this 2010 Section 303(d) list approval, EPA is not taking any action to approve or disapprove this long term schedule.

All waters making an initial appearance on the Section 303(d) list this cycle are scheduled for TMDLs within the EPA recommended time period of eight to thirteen years from listing. Note that Delaware has made a number of changes to the "Target Date for TMDL", primarily for toxic pollutants. Delaware is supporting the modifications to these dates with the "Watershed Approach to Toxics Assessment and Restoration."

Coordination with the U.S. Fish and Wildlife Service

On March 20, 2013, EPA notified the National Marine Fisheries Service (NOAA Fisheries) and the Chesapeake Bay Field Office of the U.S. Fish and Wildlife Service (FWS) by electronic mail of the availability of Delaware's final 303(d) list. EPA requested comments from FWS and NMFS regarding the list in relation to threatened and endangered species. NOAA Fisheries responded via electronic mail on March 21, 2013 that they would not be commenting. FWS did not respond.

Appendix A:

Below are the water quality standards in Delaware's Administrative code (http://regulations.delaware.gov/AdminCode/title7/7000/7400/7401.shtml) that CBD asserted were not being attained based on the data and information they submitted:

- Section 4.0—Criteria to protect designated uses
  - Section 4.1—All surface water of the State (except as detailed in Sections 7 and 8) shall meet the following minimum criteria:
    - Section 4.1.1—Waters shall be free from substances that are attributable to wastes of industrial, municipal, agricultural or other human-induced origin. Examples include but are not limited to the following:
      - Section 4.1.1.3—Any pollutants, including those of a thermal, toxic, corrosive, bacteriological, radiological, or other nature, that may interfere with attainment and maintenance of designated uses of the water, may impart undesirable odors, tastes, or colors to the water or to aquatic life found therein, may endanger public health, or may result in dominance of nuisance species.
    - Section 4.5.3—pH, measured in standard units, in all waters of the state
      - Section 4.5.3.1—Shall be between 6.5 and 8.5 unless outside this range due solely to natural conditions. Where within this range, maximum human-induced change from background shall be 0.5 Standard Units; pH which results from human-induced change must remain within this range.
      - Section 4.5.3.2—Where pH is below 6.5 or above 8.5 due solely to natural conditions, it shall not be lowered (where below 6.5) or raised (where above 8.5) more than 0.3 Standard Units due to human-induced changes.

- Section 5.0—Antidegradation and ERES Water Policies
  - Section 5.1—Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Degradation of water quality in such a manner that results in reduced number, quality, or river or stream mileage of existing uses shall be prohibited. Degradation shall be defined for the purposes of this section as a statistically significant reduction, accounting for natural variations, in biological, chemical, or habitat quality as measured or predicted using appropriate assessment protocols.
  - Section 5.2—Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected. In the case of waters of exceptional recreational or ecological significance, existing quality shall be maintained or enhanced. Limited degradation may be allowed if the Department finds, after full satisfaction of public participation provisions of 7 Del.C. Sections 6004 and 6006 and the intergovernmental coordination provisions of the State's continuing planning process as required in 40 CFR Part 130, that allowing lower water quality is necessary to accommodate important social or economic development, or would result in a

substantial net environmental or public health benefit, in the area in which the waters are located. In allowing such degradation or lower water quality, the Department shall assure maintenance of water quality adequate for full protection of existing uses. Further, the Department shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

Appendix B:

References:

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