

VT §303(d) Approval Documentation

September 5, 2018

I. INTRODUCTION

EPA has conducted a complete review of Vermont's 2018 Section 303(d) list and supporting documentation and information and, based on this review, EPA has determined that Vermont's list of water quality limited segments (WQLSs) still requiring 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 Vermont's 2018 Section 303(d) list. The statutory and regulatory requirements, and EPA's review of Vermont's compliance with each requirement, are described in detail below.

II. STATUTORY AND REGULATORY BACKGROUND

Identification of WQLSs for Inclusion on 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within its 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 Section 130.7(b)(1).

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 2006 Integrated Report Guidance describes categories of water quality-related data and information that may be existing and readily available. See EPA's August 13, 2015 memorandum on *Information Concerning 2016 Clean Water Act Sections 303(d), 305 (b), and 314 Integrated Reporting and Listing Decisions*, which recommended that the 2016 integrated water quality reports follow the Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act (2006 Integrated Report Guidance (IRG) issued July 29, 2005, as supplemented by an October 12, 2006 memo and attachments, a May 5, 2009 memo and attachments, a March 21, 2011 memo and attachments, a September 3, 2013 memo and attachments, an August 13, 2015 memo and attachments, and the December 22, 2017 memo. All guidance, memoranda and attachments may be found at:

<http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/guidance.cfm> 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.

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. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and 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 Integrated Report Guidance and the 2006, 2009, 2011, 2013, 2015 and 2017 memoranda and attachments.

III. REVIEW OF VERMONT'S §303(d) SUBMISSION

Waters listed by Vermont in Part A of the State's 2018 Integrated Report (which corresponds to EPA's Category 5 (as defined below)) represent the State's §303(d) list, which the State is required to submit to EPA for review and approval or disapproval. The water segments Vermont placed into one of Parts B through F of the State's 2018 Integrated Report (which correspond to EPA's Categories 3 through 4 (as defined below)) fulfill the requirements of §305(b) of the CWA and are not a part of Vermont's §303(d) list. Such integrated listing format allows states to provide the status of all assessed waters in a single multi-part list. States may list each water body or segment thereof into one or more of the following five categories, as appropriate:

- 1) All designated uses are supported, no use is threatened;
- 2) Available data and/or information indicate that some, but not all of the designated uses are supported;
- 3) There is insufficient available data and/or information to make a use support determination;
- 4) Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed;
 - 4a) A state-developed TMDL has been approved by EPA or a TMDL has been established by EPA for any segment-pollutant combination (VT Part D);
 - 4b) Other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time (VT Part B);
 - 4c) The non-attainment of any applicable water quality standard for the segment is the result of pollution and is not caused by a pollutant (VT Parts E and F); and
- 5) Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed (VT Part A).

EPA reviewed Vermont's draft 2018 Section 303(d) list, dated May 2018. The Vermont Department of Environmental Conservation (VTDEC) then revised the list based on comments received during the public comment period. Vermont submitted its final 2018 §303(d) list (dated August, 2018) to EPA-New England on August 7, 2018. The submittal package included the following components:

1. State of Vermont 2018 §303(d) List of Waters (August, 2018). This submission included "Part A," the list of impaired surface waters needing total maximum daily loads (TMDLs).
2. State of Vermont 2018 List of Priority Surface Waters Outside the Scope of Clean Water Act Section 303(d). This submission included: Part B, impaired surface waters – no TMDL required; Part D, surface waters with completed and approved TMDLs; Part E, surface waters altered by exotic species; and Part F, surface waters altered by flow regulation.

3. VTDEC's Response to Public Comments on Vermont's May 2018 draft §303(d) list.

VTDEC conducted a public participation process, in which it provided the public the opportunity to review and comment on the State's 2018 draft §303(d) list. A public comment period was opened on May 29, 2018 and was closed on June 29, 2018. Comments were solicited from the public both through regional newspapers and the VTDEC website. EPA concludes that Vermont's public participation process was consistent with its Continuing Planning Process (CPP), and that Vermont provided sufficient public notice and opportunities for public involvement.

Vermont's final submittal took into account suggested changes to the State's draft 2018 §303(d) list from interested parties. VTDEC prepared a "Response to Comments" document which lists each comment and the State's response. EPA reviewed VTDEC's responses and concludes that Vermont adequately responded to the comments.

IV. IDENTIFICATION OF WATERS AND CONSIDERATION OF EXISTING AND READILY AVAILABLE WATER QUALITY-RELATED DATA AND INFORMATION

EPA has reviewed the State's submission, and has concluded that the State developed its §303(d) list in compliance with §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.

Vermont used the VTDEC Watershed Management Division assessment databases to develop its 2018 §303(d) list. The same databases are used to assist in the preparation of the biennial §305(b) report. These databases contain all reported water quality information. In the development of the 2018 §303(d) list, Vermont began with its existing EPA approved 2016 §303(d) list and relied on new water quality assessments (i.e., post-2016) to update the list accordingly. All data sources used to develop previous §303(d) lists were carefully reviewed. Where valid monitoring data, including recent data as well as data older than 5 years, and/or evaluative information were collected and determined to be sufficient to make §303(d) listing judgments, waterbodies that were assessed as impaired for one or more uses due to pollutants were added to the 2018 §303(d) list. Vermont believes that information pertaining to impairment status must be well substantiated, preferably with actual monitoring data, for it to be used for §303(d) listing.

EPA has reviewed Vermont's description of the data and information it considered, 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).

In addition, the State provided a rationale for not relying on particular and readily available water

quality-related data and information as a basis for listing waters. Beginning with the 1998 list and continuing through the 2018 listing process, Vermont chose not to list waters where the only information regarding water quality was unsubstantiated anecdotal information (e.g., citizen complaint). Vermont analyzed relevant data and information for each water body in the State in deciding whether there was sufficient, reliable data to support listing. The State's use of this listing methodology is reasonable and consistent with EPA's regulations. The regulations require states to "assemble and evaluate" all relevant water quality related data and information, and Vermont did so for each of its waterbodies. The regulations permit states to decide not to use any particular data and information as a basis for listing, provided they have a reasonable rationale in doing so. Vermont's decision not to use unsubstantiated anecdotal information is reasonable in light of the uncertainty about the reliability of such information. Moreover, it is reasonable for Vermont to decide to focus its listing and TMDL development resources on waters where water quality impairments are well-documented, rather than on waters with only unreliable water quality information. As additional waters are assessed, EPA expects Vermont would add waters to its list where such assessments show water quality standards are not being met.

Vermont did in certain cases include waters on the 2018 §303(d) list based solely on evaluative information, i.e., information the evaluation of which requires the use of judgment, in contrast to information consisting of straightforward numerical sampling results. Vermont based a listing decision on evaluative information when the State had confidence that an impairment existed. For example, most critically and chronically acidified waters, for which only limited measurements of pH and alkalinity exist, are listed based on the "evaluative" relationship between aquatic biota, pH and alkalinity, rather than on actual measurements of biological integrity.

Another example of Vermont's use of evaluative information includes waters based on data older than 5 years of age (i.e., "evaluated" waters under EPA's §305(b) guidance) where such data showed exceedences of one or more criteria of Vermont water quality standards. Although data older than 5 years is considered "evaluative" information under EPA's Section 305(b) guidance, Vermont chose to use such data as a basis for listing. The State concluded that the use of such data is reasonable because, without specific information to the contrary, there is no reason to believe that data older than 5 years are no longer representative of the water quality of the waterbody in question. EPA believes this conclusion is reasonable, and it is consistent with EPA regulations for states to decide to list waters based on data older than 5 years. The regulations require states to consider all available data and to use it unless the state provides a reasonable rationale for not doing so.

Vermont does not add waters to the §303(d) list where the limited information available might indicate a possible impairment but the information was determined by VTDEC to be insufficient for the purpose of listing. For example, there have been instances in the past in which Vermont has not listed water segments for pathogens, where questionable volunteer monitoring data (e.g., situations with few samples and data absent a QA/QC plan) indicated potential exceedences of the bacteria criterion. In those and similar cases, Vermont believes the information is too limited (for reasons discussed above), creating considerable uncertainty with respect to the assessment

and whether uses are truly impaired.

In summary, Vermont considered the most recent §305(b) assessments, as required by EPA's regulations, and evaluated all existing and readily available water quality-related data and information, obtained primarily through monitoring, as the basis for adding water quality impairments to the 2018 §303(d) list. The State added 5 new impaired waters to the 2018 §303(d) list. EPA concludes that Vermont appropriately considered all relevant and appropriate information during the State's development of the 2018 §303(d) list.

Priority Ranking

As described in its methodology, Vermont established a priority ranking for listed waters by considering: 1) the presence of health issues, 2) the nature, extent, and severity of the pollutant(s) causing the impairment, 3) the use or uses that are impaired, 4) the availability of resources, and 5) the amount or degree of public interest in problem abatement. Additionally, Vermont also considered the merits of addressing – on a regional or statewide basis – waters with similar problems (e.g., pH impaired waters due to acid rain). Individual priority rankings for listed waters are reflected in the list with indications of low, medium or high priority for TMDL development. Vermont defines its priorities in the following manner: H = high, 1-3 years; M = medium, 4-8 years; L = low, 8+ years.

EPA finds that the waterbody prioritization and targeting method used by Vermont is reasonable and sufficient for purposes of Section 303(d). The State properly took into account the severity of pollution and the uses to be made of listed waters, as well as other relevant factors described above. EPA acknowledges that the schedule of TMDL completion establishes a meaningful priority ranking system.

Water impairments Not Listed on Vermont's 2018 §303(d) List Because of Delisting

Vermont did not include on its 2018 §303(d) list six water impairments included on the State's 2016 §303(d) list, and EPA asked the State to provide rationales for its decision to "delist" these previously listed waters. The State has demonstrated, to EPA's satisfaction, good cause for not listing these waters on its 2018 §303(d) list, consistent with 40 CFR §130.7(b)(6)(iv). The specific bases for delisting these water impairments are described below.

Little Otter Creek, river miles 15.4 to 16.4 (VT03-07) was originally listed in 1998 for aquatic life support due to suspected nutrient and sediment contributions from agricultural runoff. VTDEC believes the listing was based on the fish metrics component of the biological assessment, because the data reports indicate the macroinvertebrate results were compliant with water quality standards ("Very Good – Good") from the one year (1995) that sampling was conducted prior to listing. However, it turns out that fish metrics are not applicable to this segment, so attainment is governed by the macroinvertebrate results only. The segment was sampled again more recently (2015) and the results were "Excellent – Very Good".

Accordingly, VTDEC proposed to delist this segment in the current (2018) listing cycle. EPA approves this delisting for the aquatic life impairment.

Hubbardtown Tributary 7 (VT02-02) was originally listed on the 2000 303(d) list for contact recreation due to E. coli in WWTF discharges and aquatic life impairment due to elevated nutrient levels and presumed elevated temperatures caused by a large, shallow non-forested wetland just upstream. The contact recreation impairment was delisted in 2016 based on newer E. coli data. While the biological monitoring data continue to indicate an aquatic life impairment, VTDEC has determined that the aquatic life impairment is caused by elevated nutrients, and is not caused by temperature. There are no data indicating elevated temperatures for this segment (either currently or in the past) and recent macroinvertebrate monitoring results point to nutrient enrichment rather than temperature as the cause. EPA approves this delisting for the temperature cause of the aquatic life impairment. The segment remains on the 303(d) list for the aquatic life impairment and the impairment cause of elevated nutrient levels.

Big Spruce Brook, RM 0.3 to RM 0.8 (VT08-12-05) was listed in 2010 for aquatic life impairment due to iron seeps from unknown causes. All iron seeps due to disturbance have subsequently been eliminated. The segment continues to be affected by remaining iron seeps, but all the remaining iron seeps have been determined (with the aid of the Vermont State Geologist) to be a result of natural influences. Consistent with the Vermont WQS provisions for natural influences (Section 29A-301) VTDEC is proposing to delist this segment given that the impairment is now entirely the result of natural influences. EPA approves this delisting for the aquatic life impairment and the cause of iron.

Consistent with EPA's regulations and EPA's Guidance for Assessment, Listing and Reporting Requirements, Vermont did not include on the 2018 §303(d) list 3 water impairments for which TMDLs have been issued by EPA. These three include two temperature TMDLs and one phosphorus TMDL. The temperature TMDLs address Moon and Mussey Brooks (Rutland) and the phosphorus TMDL addresses Lake Memphremagog (Newport). EPA approves these delistings for the specified impairment causes.

Water Impairments Removed from EPA Category 4b and Vermont's Part B (impaired but no TMDL needed) due to delisting

Vermont did not include on its 2018 4b list three water impairments included on the State's 2016 4b list, and EPA asked the State to provide rationales for its decision to "delist" these previously listed waters. The State has demonstrated, to EPA's satisfaction, good cause for not listing these waters on its 2018 4b list. The specific bases for delisting these water impairments are described below.

Jay Branch, RM 7.3 to RM 9.1 (VT06-08-01) was added to the 4b list (Vermont's Part B list) in 2006 for aquatic life impairment caused by sediment originating from erosion from land development activities. VTDEC issued two enforcement orders directing remediation actions, and an extensive group of stormwater treatment and channel restoration practices were completed in this watershed. The two most recent biological monitoring year results ("Good" in 2016 and "Very Good" in 2017) indicated the segment is now in compliance with Vermont's

water quality standards. EPA approves this delisting of the aquatic life impairment from Part B of Vermont's list of waters.

Jay Branch-Tributary #9 (VT06-08-02) was added to Vermont's Part B list in 2006 for aquatic life impairment caused by sediment originating from erosion from land development activities. VTDEC issued two enforcement orders directing remediation actions, and an extensive group of stormwater treatment and channel restoration practices were completed in this watershed. The two most recent biological monitoring year results ("Very Good – Good" in 2016 and "Good" in 2017) indicated the segment is now in compliance with Vermont's water quality standards. EPA approves this delisting of the aquatic life impairment from Part B of Vermont's list of waters.

Big Spruce Brook, RM 0.2 to RM 0.3 (VT08-12-03) was listed in 2010 for aquatic life impairment due to sediment associated with stormwater runoff and also due to iron seeps from unknown causes. Following extensive remediation of sediment sources, VTDEC has concluded that all sediment sources have now been addressed and that the aquatic life impairment is now being caused only by the iron seeps (the macroinvertebrate data no longer indicate a sediment impact or sediment contribution to the impairment). The one iron seep source attributed to human disturbance has now been eliminated. The segment continues to be affected by remaining iron seeps, but all the remaining iron seeps have been determined (with the aid of the Vermont State Geologist) to be the result of natural influences – primarily from an upstream natural ravine that is inaccessible for any remediation. Consistent with the Vermont WQS provisions for natural influences (Section 29A-301) VTDEC is proposing to delist this segment given that 1) sediment is no longer a cause of the impairment and 2) the remaining cause of the impairment (iron) is now entirely the result of natural influences. EPA approves this delisting for the aquatic life impairment and the causes of sediment and iron.

Waters impaired by nonpoint sources of pollution

The State 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 the 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 Northern District of California held that Section 303(d) of the Clean Water Act authorizes EPA to identify and establish total maximum daily loads for waters impaired by nonpoint sources. Pronsolino v. Marcus, 91 F. Supp. 2d 1337, 1347 (N.D.Ca. 2000). This decision was affirmed by the 9th Circuit court of appeals in Pronsolino v. Natri, 291 F.3d 1123 (9th Cir. 2002). See also EPA's Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act – EPA Office of Water-- July 29, 2005.