

July 19, 2004

Jeffrey Wennberg, Commissioner
Vermont Department of Environmental Conservation
103 South Main Street
Waterbury VT 05671-0408

Re: Section 303(d) list approval

Dear Commissioner Wennberg:

Thank you for your final submittal of the 2004 Clean Water Act Section 303(d) list, **State of Vermont 303(d) List of Waters**, dated May 12, 2004 and your submittal letter dated June 10, 2004. In accordance with Section 303(d) of the Clean Water Act and 40 CFR §130.7, the U.S. Environmental Protection Agency (EPA) conducted a complete review of Vermont's 2004 Section 303(d) list and supporting documentation. Based on this review, EPA has determined that Vermont'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 (CWA) and EPA's implementing regulations. Therefore, by this order, EPA hereby approves Vermont's Section 303(d) list.

The submittal includes a list of those waters for which technology based and other required controls for point and nonpoint sources are not stringent enough to attain or maintain compliance with the State's Water Quality Standards. The submittal presents Vermont's TMDL strategy which describes a priority setting approach and identifies those waters for which TMDLs will be completed and submitted during the next two years. The statutory and regulatory requirements, and EPA's review of Vermont's compliance with each requirement, are described in detail in the enclosed approval document.

The Vermont Department of Environmental Conservation (VTDEC) has also successfully completed a public participation process during which the public was given the opportunity to review and comment on the Section 303(d) list. As a result of this effort, Vermont has considered public comments in the development of the final list. A summary of the public comments and VTDEC's response to comments was included in the final submittal.

Your staff have done an excellent job of preparing a comprehensive and informative list, and providing EPA with thorough supporting documentation. We are very pleased with the quality of your submittal. In particular, your thorough explanation of the bases for proposed delistings made our review and approval process easier and faster than usual. My staff and I look forward to

continued cooperation with VTDEC in implementing the requirements under Section 303(d) of the CWA. Please feel free to contact me or Eric Perkins at 617-918-1602, if you have any questions or comments on our review.

Sincerely,

Linda M. Murphy, Director
Office of Ecosystem Protection

Enclosure

cc: Wally McLean, VTDEC
Tim Clear, VTDEC
Jerry Potamis, EPA
Ann Williams, EPA
Steve Silva, EPA
Eric Perkins, EPA

VT §303(d) Approval Documentation: 7/19/04

I. INTRODUCTION

EPA has conducted a complete review of Vermont's 2004 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 2004 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 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.

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 1991 Guidance.

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

EPA first reviewed Vermont's Draft 2004 Section 303(d) list dated March 15, 2004. The Vermont Department of Environmental Conservation (VT DEC) then revised the list based on comments received during the public comment period including EPA comments sent by email on April 13, 2004. Vermont submitted its final 2004 §303(d) list to EPA-New England on June 14, 2004. The submittal package included the following components:

1. State of Vermont 2004 §303(d) List of Waters (May 12, 2004). This submission included "Part A", the list of impaired waters needing TMDLs, and an "interim list" containing waters

which the state identified would be delisted upon EPA approval.

2. Vermont's Surface Water Assessment Methodology including the Vermont Listing Methodology, dated May 12, 2004.

3. Response to Public Comments on the March 15, 2004 draft list and listing methodology by VT DEC.

VT DEC conducted a public participation process in which it provided the public the opportunity to review and comment on the 2004 draft Section 303(d) list. A public comment period was opened upon the release of the draft list on March 15, 2004 and was closed on April 13, 2004. Persons requesting additional time for comment were given until April 23, 2004. During the comment period a public meeting was held in Waterbury VT, and comments were solicited from the public both through regional newspapers and the VT DEC 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 and response.

The final submittal took into account, and in many instances incorporated, suggested changes to the draft list from interested parties. VT DEC prepared a "Response to Comments" document which lists each comment and the State's response. EPA reviewed VT DEC'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 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.

Vermont used the VT DEC Water Quality Division assessment databases to develop its 2004 §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 2004 §303(d) list, Vermont began with its existing EPA approved 2002 §303(d) list and relied on new water quality assessments (i.e., post-2002) 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 judgements, waterbodies that were assessed as impaired for one or more uses due to pollutants were added to the 2004 §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 2004 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 include waters on the 2004 §303(d) list based solely on evaluative information in certain cases when it had confidence that an impairment exists. For example, (1) since all waters are covered under the statewide fish consumption advisory due to elevated mercury in fish tissue, all waters were included by reference on the list as impaired by mercury based solely on evaluative information; (2) most critically and chronically acidified waters, which have only limited measurements of pH and alkalinity, are listed based on the "evaluative" relationship between aquatic biota, pH and alkalinity rather than actual measurements of biological integrity.

In the development of the 2004 §303(d) list, Vermont listed waters based on data older than 5 years of age (i.e., "evaluated" waters under §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 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 they provide a reasonable rationale for not doing so.

Waters were not added to the 2004 §303(d) list where limited information might indicate a possible impairment but it was determined to be insufficient (usually not well documented) for the purpose of listing on the §303(d) list. For example, waters were not listed for pathogens

where questionable volunteer monitoring data (e.g., situations with few samples and data absent a QA/QC plan) indicate potential exceedences of the bacteria criterion.

For each water quality impairment not previously listed, where information indicated an impairment due to pollutants may exist, but available information was determined to be insufficient to support a §303(d) listing (due to lack of monitoring data or QA/QC documentation), the waterbodies were not included on the §303(d) list. Instead, they are included on a separate state list of priority waters in the category of waters in need of further assessment. In these cases, Vermont believes the information is limited (for reasons discussed above) creating considerable uncertainty with respect to the assessment and whether uses are truly impaired. For water quality impairments being de-listed, Vermont will evaluate each delisting for inclusion on its list of waters in need of further assessment.

Based on the decisions Vermont made regarding the use of data and information for listing waters, the relationship between Vermont's 2004 §303(d) list and its most recent §305(b) report (2004) is summarized below:

1. All surface waters with documented exceedences of the Vermont Water Quality Standards or assessed as partially supporting or not supporting one or more designated uses based on information obtained through chemical, physical, or biological monitoring are included in the 2004 §303(d) list (with the exception of waters proposed for delisting discussed below).
2. Waters assessed as partially supporting or not supporting uses based on certain types of information considered to be "evaluative" information under EPA's §305(b) guidance are included on the 2004 Section 303(d) list (e.g., monitoring data older than 5 years, volunteer monitoring data with adequate quality assurance).
- 3 Generally, surface waters assessed as partially supporting or not supporting one or more designated uses for §305(b) reporting purposes based solely on unsubstantiated or anecdotal information are not included on the 2004 §303(d) list.
4. Vermont did not include those waters identified as "threatened" in its §305(b) assessment on the §303(d) list because available information utilized by Vermont did not indicate any cases where the waterbody is expected to be in nonattainment by the next listing cycle.

In summary, Vermont considered the most recent §305(b) assessments, as required by EPA's regulations, and used information obtained primarily through monitoring as the basis for adding water quality impairments to the 2004 §303(d) list. Of the 199 unique water quality impairment problems appearing in the final 2004 §303(d) list, 195 entries appeared on the §303(d) list from 2002. The remaining entries (4) appearing on the final 2004 §303(d) list are additions (i.e., did not appear on the 2002 §303(d) list). EPA concludes that Vermont appropriately considered the waters listed in the most recent section 305(b) report during the development of the 2004

§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 as the long term schedule for TMDL development. For each listed water, the schedule specifies the anticipated year of TMDL completion which extends to the year 2013. The final Vermont 2004 §303(d) list identifies 38 waterbody segments targeted for TMDL development before or during the year 2006.

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.

Waters which are not listed on Vermont's 2004 §303(d) List

Vermont did not include on its 2004 §303(d) list forty waters included on the 2002 list, and EPA asked the State to provide rationales for its decisions not to list these previously listed waters. The State has demonstrated, to EPA's satisfaction, good cause for not listing these waters, as provided in 40 CFR §130.7(b)(6)(iv).

Of the forty, Vermont did not include ten water body segments because either new monitoring data indicate applicable water quality standards are no longer exceeded or (in the case of four of the ten segments) the state concluded the waters were previously listed inappropriately. Descriptions of each of these ten waters are included below. The remaining thirty waters are no longer listed because TMDLs have been completed for them since the 2002 list was prepared.

Slide Brook (VT08-20) was impaired for aquatic life support due to sediment loading from the watershed. Following drainage improvements to the gravel parking lots, including the installation of vegetated swales and sediment traps, at the Sugar Bush Resort, results from VT DEC biomonitoring rounds in 2000 and 2002 indicated "excellent" and "very good" conditions, respectively. EPA approves this delisting.

Chase Brook (VT08-20) was also impaired by sediment from Sugar Bush Resort, and the installation of the BMPs described above resulted in biological monitoring ratings of "very good" and "good" for the 2000 and 2002 sampling years. Monitoring will continue for both waters to document continued compliance. EPA approves this delisting.

The Unnamed Trib to Shelburne Town Beach (VT05-12), previously impaired for E. coli, is now meeting the Vermont E. coli criteria of 77 cfu/100ml. Twenty-one, twice-weekly samples collected during each of the summer swim seasons in 2002 and 2003 yielded E. coli levels below the standard in all cases. EPA approves this delisting.

Adams Brook (VT09-06) was previously impaired for aquatic life support caused by agricultural and road-related runoff. Several remediation measures, including the repair of a large failing manure pit, stabilization of erosion from parking areas, and restoration of the channel have been completed since the segment was first listed. Biological monitoring by VT DEC in 2001 and 2002 indicated the stream is now attaining the VT WQS. EPA approves this delisting.

The Whetstone Brook in Brattleboro (VT13-14) was listed both for an aesthetics impairment caused by petroleum contamination from a gas station and for aquatic life support caused by sediment loading. The source of the aesthetics impairment was removed and site remediation completed in 1996. The State has determined the impairment is no longer present based on the absence of oil sheens since 1998, and this has been verified during biological sampling events in 2002 and 2003. For the aquatic life impairment, the above mentioned monitoring revealed that this impairment is no longer present as well. While VT DEC initially believed the aquatic life impairment was due to sediment, the State has now concluded that sediment was not in fact a cause and that the petroleum seepage was likely causing the aquatic life impairment as well. Either way, the monitoring indicates the VT WQS are now met for both aesthetics and aquatic life. EPA approves both these delistings.

The State has concluded that Mud Hollow Brook (VT05-11) was inappropriately listed in previous years. The impairment was aquatic life support, but the VTDEC biological monitoring data (in this case fish data) were from 1980, 1987 and 1989. When analyzed with the current methods used by VTDEC, these data either indicate compliance with WQS (the 1980 and 1989 data are rated “very good” and “good” respectively) or the data were insufficient (from too short a reach) to determine impairment (for the 1987 data). VTDEC’s current methods “Methods for Determining Aquatic Life Use Status in Selected Wadeable Streams Pursuant to Applicable Water Quality Management Objectives and Criteria for Aquatic Biota Found in Vermont Water Quality Standards, 2003” are incorporated into VTDEC’s 2004 listing methodology. EPA approves this delisting.

Similarly, the State has also concluded that McCabes Brook (VT05-11) was inappropriately listed. The initial aquatic life impairment determination was based on 1991 fish community data, using a version of the Index of Biotic Integrity which has since been refined. The current biological assessment methods (cited above) indicate that the Index of Biotic Integrity used to evaluate fish assemblage health is not applicable to soft-bottomed, slow flowing streams such as McCabes Brook. Accordingly, the original determination of “fair” based on the 1991 data is not applicable under the current methods. In cases where an Index of Biotic Integrity cannot be scored because the stream is soft-bottomed, current methods allow for a subjective evaluation to be made. VTDEC biologists have concluded that the 1991 data meet the Class B criteria (“good”). EPA approves this delisting.

Vermont did not include two additional segments (Browns River, VT07-10, and the West Branch of the Little River, VT08-12) on the grounds that these were inappropriately listed in the first place. Both of these rivers, listed for aquatic life and secondary contact recreation (fishing) respectively, are in a category of waters considered altered rather than impaired. Recent extensive stream geomorphology studies together with other field investigations in both streams indicate that the failure of these streams to attain the VT WQS is due to extensive historical stream channel alterations, including channel straightening, gravel mining, and floodplain encroachments. These historical actions have set in motion a channel evolution process of degradation and consequent aggradation of channel sediments that is having a negative effect on the aquatic habitat and thus the biological communities. Since the source of these channel changes is from historical alterations and not pollutant discharges, Vermont's listing methodology defines these as altered rather than impaired waters, and recommends they be placed in Part G of Vermont's List of Priority Waters – a category for altered waters. EPA approves these delistings.

Consistent with EPA's regulations and the 2004 Integrated Report Guidance, Vermont did not include on the §303(d) list thirty waters for which acid TMDLs have been approved by EPA. These thirty waters are: Bourn Pond, Lye Brook North, Lye Brook South, Branch Pond, North Pond, Gilmore Pond, Griffith Lake, Big Mud Pond, Long Hole, Little Mud, Kings Hill Pond, Lake-of-the-Clouds, Hardwood Pond, Sunset Lake, Forester Pond, Stratton Pond, Moses, Howe Pond, Stamford Pond, Grout Pond, Somerset Reservoir, Adams Reservoir, Little Pond, Haystack Pond, South Pond, Unknown Pond, Turtle Pond, Round Pond, Duck Pond, and Halfway Pond.

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. Nasti, 291 F.3d 1123 (9th Cir. 2002). See also EPA's 1991 Guidance and National Clarifying Guidance for 1998 Section 303(d) Lists, Aug. 27, 1997.