

September 24, 2008

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

Re: Section 303(d) list approval

Dear Commissioner Pelosi:

Thank you for your final submittal of the 2008 Clean Water Act Section 303(d) list, **State of Vermont 303(d) List of Waters**, dated May 2008 and your submittal letter dated May 16, 2008. 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 2008 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), with the modification regarding the retention of Folsom Brook in Part A noted by letter from Tim Clear dated September 16, 2008, 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 submittal.

Your staff has done an excellent job of preparing a comprehensive and informative list, and providing EPA with thorough supporting documentation. We are pleased with the quality of your submittal. 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,

/s/

Stephen S. Perkins, Director
Office of Ecosystem Protection

Enclosure

cc: Tim Clear, VTDEC

VT §303(d) Approval Documentation: 9/22/2008

I. INTRODUCTION

EPA has conducted a complete review of Vermont's 2008 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 2008 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 Guidance for 2006 Assessment, Listing and Reporting Requirements describes categories of water quality-related data and information that may be existing and readily available. See 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. 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 Guidance for 2006 Assessment, Listing and Reporting Requirements.

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

EPA first reviewed Vermont's Draft 2008 Section 303(d) list dated March 2008. The Vermont Department of Environmental Conservation (VTDEC) then revised the list based on comments received during the public comment period. Vermont submitted its final 2008 §303(d) list to EPA-New England on May 16, 2008. The submittal package included the following components:

1. State of Vermont 2008 §303(d) List of Waters (May, 2008). This submission included "Part A", the list of impaired surface waters needing TMDLs, and an "interim list" containing waters which the State identified would be delisted upon EPA approval.

2. State of Vermont 2008 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 C, surface waters in need of further assessment; Part D, surface waters with completed and approved TMDLs; Part E, surface waters altered by exotic species; Part F, surface waters altered by flow regulation; and Part G, surface waters altered by channel alteration.
3. Response to Public Comments on the March 2008 draft list by VTDEC.
4. Letter from Tim Clear, VTDEC, to Eric Perkins, EPA, dated September 16, 2008, describing an amendment to the May, 2008 submittal.

VTDEC conducted a public participation process in which it provided the public the opportunity to review and comment on the 2008 draft Section 303(d) list. A public comment period was opened on March 12, 2008 and was closed on April 11, 2008. During the comment period a public meeting was held in Waterbury VT (on April 1, 2008), and 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 and response.

The final submittal took into account suggested changes to the draft 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. VTDEC also made one additional change to its submittal based on a letter from EPA to VTDEC, dated September 4th, 2008. The change is described in the letter from VTDEC dated September 16, 2008, cited above.

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 VTDEC Water Quality Division assessment databases to develop its 2008 §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 2008 §303(d) list, Vermont began with its existing EPA approved 2006 §303(d) list and relied on new water quality assessments (i.e., post-2006) 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 2006 §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 2008 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 2008 §303(d) list based solely on evaluative information in certain cases when it had confidence that an impairment exists. For example, 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 2008 §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 2008 §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.

Based on the decisions Vermont made regarding the use of data and information for listing waters, the relationship between Vermont's 2008 §303(d) list and its most recent §305(b) report (2008) 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 2008 §303(d) list (with the exception of waters proposed for delisting and newly impaired waters which are expected to meet water quality standards in the near future consistent with §130.7(b)(1) – both of these exceptions are 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 2008 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 2008 §303(d) list.

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 2008 §303(d) list. Of the 151 unique water quality impairment problems appearing in the final 2008 §303(d) list, 146 entries appeared on the §303(d) list from 2006. The remaining entries (5) appearing on the final 2008 §303(d) list are additions (i.e., did not appear on the 2006 §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 2008 §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.

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 2008 §303(d) list because of delisting

Vermont did not include on its 2008 §303(d) list 39 waters included on the 2006 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 39, Vermont did not include two water body segments because new monitoring data indicate applicable water quality standards are no longer exceeded. Two additional segments are no longer included because the State concluded the waters were previously listed inappropriately. The justifications for each of these four delistings are included below. The remaining 35 waters are no longer listed because TMDLs have been completed for them since the 2006 list was prepared.

Moon Brook in Rutland, from the mouth to river mile 3.3 (VT03-06) was impaired for aquatic life support and listed for iron due to iron leaching from the Rutland City landfill. The landfill was capped in 1991, and levels of iron in the stream declined steadily since the mid 1990s. The most recent VTDEC biological monitoring data (from 2001 and 2005) downstream of the landfill rate the site as good and very good respectively (indicating compliance with the VTWQS) and no iron precipitate was observed during either sampling time. In addition, no iron precipitate was found at any other sampling stations all the way down to the stream mouth. EPA approves this delisting. (Note that Vermont's 2006 303(d) list included two separate listings for Moon Brook: one listing for aquatic life support caused by iron, from the mouth to mile 3.3; and then another listing for aquatic life support caused by pollutants associated with stormwater, from the mouth to mile 2.9. The 2008 list retains this second listing, as the lower portion remains impaired for aquatic life and the stormwater cause is not yet removed. It is only the first listing, for iron, that is being removed.)

The South Bay segment of Lake Memphremagog (VT17-01L02) was listed for elevated phosphorous concentrations and the presumption that the bay experienced nuisance algal blooms. VTDEC believes the original listing was triggered by older data collected during the 1970s, that indicated phosphorus concentrations in the bay averaged 27.8 ug/l over the period 1969-1977. The phosphorus criterion for South Bay is 25.0 ug/l, expressed as an annual average. New data collected by VTDEC from 2005 to 2007 as part of the Lake Assessment Program indicated an annual average of 23.9 ug/l over this three year period. While the annual average for 2005 was slightly above the criterion at 25.2 ug/l, the annual averages for both 2006 and 2007 were well below the criterion. In addition, separate data collected during this period by the summer Lay Monitoring Program also found average levels below the criterion, at 19.6 ug/l. VTDEC field staff also noted an absence of nuisance algal blooms; some algae were present, but the level of algae growth was considered consistent with the expectations for this lake segment (a shallow, turbid bay). The improvements are likely the result of the phosphorus reductions achieved through both wastewater treatment plant upgrades and agricultural BMPs implemented in the watershed over the last decade or more. EPA approves this delisting.

Vermont did not include two additional segments (Sucker Brook, from Sugar Hill Reservoir Dam to 0.25 miles downstream -- VT03-04, and Lower Little River below hydro dam 0.75 miles -- VT08-11) on the grounds that these were inappropriately listed in the first place. The State believes that both of these waters, listed for aquatic life support caused by low dissolved oxygen due to hypolimnetic withdrawal, should be in the category of waters impaired but not by a pollutant (EPA's category 4c), and specifically the category called "altered by flow regulation" in Vermont's terminology. The low dissolved oxygen levels are not caused by the introduction of pollutants, they are the result of dam operations releasing naturally occurring low D.O. hypolimnetic (deeper) waters due to the configuration of the dam outlet structures. EPA approves these delistings.

In its original May 2008 submittal, VTDEC also proposed delisting Folsom Brook (VT08-20), which is impaired due to bacteria. Based on a review of more recent data and subsequent discussions with EPA, VTDEC chose to keep this water on the list, as indicated via letter from Tim Clear dated September 16, 2008.

Consistent with EPA's regulations and EPA's Guidance for 2008 Assessment, Listing and Reporting Requirements, Vermont did not include on the §303(d) 35 waters/impairments for which TMDLs have been approved by EPA. These 35 include four stormwater TMDLs and 31 segments included in the Northeast Mercury TMDL. The stormwater TMDLs are for Englesby Brook (Burlington), Bartlett Brook (South Burlington), Centennial Brook (Burlington) and Morehouse Brook (Winooski). The mercury TMDL segments are Poultney River (mouth to Carvers Falls), Lower Otter Creek (lowest 7.6 miles), Little Otter Creek (lowest mile), Lower Dead Creek (lowest 3 miles), Chittenden Reservoir, Otter Creek Section -- Lake Champlain (Ferrisburg), Port Henry Section -- Lake Champlain (Ferrisburg), Southern Section -- Lake Champlain (Bridport), Missisquoi Bay -- Lake Champlain (Alburg), Northeast Arm -- Lake Champlain (Swanton), Isle LaMotte -- Lake Champlain (Alburg), St. Albans Bay -- Lake

Champlain (St. Albans), Malletts Bay – Lake Champlain (Colchester), Burlington Bay – Lake Champlain (Burlington), Main Section – Lake Champlain (South Hero), LaPlatte River (at mouth), Shelburne Bay – Lake Champlain (Shelburne), Missisquoi River (mouth upstream 8 miles), Lamoille River (mouth upstream 8.5 miles), Arrowhead Mountain Lake (Milton), Winooski River (mouth to Winooski Dam), Harriman Reservoir (Whitingham), Sherman Reservoir (Whitingham), East Branch Deerfield River (below Somerset Dam), Grout Pond (Stratton), Somerset Reservoir (Somerset), Upper Deerfield River (below Searsburg Dam), Searsburg Reservoir (Searsburg), Moore Reservoir (Waterford), Comerford Reservoir (Barnet), and Lake Salem (Derby). EPA approves these delistings for the specified impairment causes (4 for stormwater, 31 for mercury). Many of these segments are still listed for other impairments.

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.