UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

September 30, 2011

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

SUBJECT: **Approval of VT Statewide Bacteria TMDL**

Dear Commissioner Mears:

Thank you for your Department's submittal of the *Vermont Statewide Total Maximum Daily Load (TMDL) for Bacteria-Impaired Waters*. This TMDL report provides bacteria TMDLs for 22 Class B waterbody segments which are included on Vermont's 2010 303(d) list, and are prioritized for TMDL development. The purposes of the TMDLs are to address recreational use impairments caused by bacteria.

The U.S. Environmental Protection Agency (EPA) hereby approves Vermont's statewide bacteria TMDLs submitted with your cover letter dated September 29, 2011. EPA has determined that these TMDLs meet the requirements of §303(d) of the Clean Water Act (CWA), and of EPA's implementing regulations (40 CFR Part 130). Attached is a copy of our approval documentation.

Thank you again for your submittal. We were pleased with the quality of this TMDL report. My staff and I look forward to continued cooperation with the Vermont DEC in exercising our shared responsibility of implementing the requirements under Section 303(d) of the CWA.

Sincerely,

/s/

Stephen S. Perkins, Director
Office of Ecosystem Protection

Enclosure

Cc: Tim Clear, VTDEC

September 30, 2011

EPA NEW ENGLAND'S TMDL REVIEW

TMDL: **Vermont Statewide Bacteria TMDL**
HUC: Multiple, statewide
2010 303(d) list: recreational use impairment; 2010-2011 TMDL development.

STATUS: Final

IMPAIRMENT/POLLUTANT: Recreational use impairments are based on bacteria criteria for Classes A and B. Sources include both point and nonpoint sources. TMDLs are established in terms of concentrations for Eschericia coli (E. coli).

BACKGROUND: The Vermont Department of Environmental Protection (VTDEC) submitted a draft TMDL on May 31, 2011. A public comment period was held from May 31 to June 24, 2011. VTDEC submitted to EPA Region 1 the final *Vermont Statewide Bacteria TMDL* with a transmittal letter dated September 29, 2011. In addition to the main TMDL report, the submittal included the following:

- 18 watershed-specific appendices (site-specific bacteria data and source information for 22 impaired segments).

- Response to Comments on the Vermont Statewide Bacteria TMDL

The following review explains how the TMDL submission meets the statutory and regulatory requirements of TMDLs in accordance with § 303(d) of the Clean Water Act and EPA's implementing regulations in 40 CFR Part 130.

REVIEWER: Eric Perkins (617-918-1602) e-mail: perkins.eric@epa.gov

REVIEW ELEMENTS OF TMDLs

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. § 130 describe the statutory and regulatory requirements for approvable TMDLs. The following information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation.

1. Description of Waterbody, Pollutant of Concern, Pollutant Sources and Priority Ranking

The TMDL analytical document must identify the waterbody as it appears on the State/Tribe's 303(d) list, the pollutant of concern and the priority ranking of the waterbody. The TMDL submittal must include a description of the point and nonpoint sources of the pollutant of concern, including the magnitude and location of the sources. Where it is possible to separate natural background from nonpoint sources, a description of the natural background must be provided, including the magnitude and location of the source(s). Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use in the watershed; (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present and future growth trends, if taken into consideration in preparing the TMDL; and, (4) explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments, or chlorophyll a and phosphorus loadings for excess algae.

A. Description of Waterbody, Priority Ranking, and Background Information

The TMDL document addresses a total of 22 bacteria-impaired stream and river segments listed in Vermont's 2010 303(d) list (page 23 of the TMDL report). These 22 segments are located in 9 of Vermont's 17 major planning basins. The highest concentrations of impaired segments are in Basin 5 - Upper Lake Champlain (5 impaired segments), and Basin 3 - Otter Creek (6 impaired segments). Table 4-1 of the TMDL document lists each impaired water segment, including each waterbody's assessment unit identifier, segment name, and presumed cause or source of the problem (where available) as indicated in the 2010 303(d) list.

State-wide maps as well as the lists of impaired waterbodies and locations are presented in the main body of the TMDL report, and site-specific maps and data are provided in the appendices. While the TMDL covers 22 impaired segments, there are only 18 watershed appendices because in a few cases, segments located close to each other are clustered in one appendix. All 22 segments are listed as "high priority" for TMDL development, meaning that TMDL completion is targeted for within 2-3 years of list development.

B. Pollutant of Concern

The bacteria impairment listings are based on monitoring data for Eschericia coli (E. coli).

C. Pollutant Sources

Potential point sources of bacterial pollution include: wastewater discharges from treatment facilities, NPDES regulated stormwater (including stormwater discharges authorized by MS4 permits, the construction general permit, and the multi-sector general permit), and accidental and illicit discharges. Potential non-point sources of bacterial pollution include stormwater not

regulated under the NPDES program, septic systems, pet waste, wildlife wastes, agriculture, and recreational uses (swimmers). Actual segment-specific sources of bacterial pollution are identified in the watershed appendices when these sources are known.

Assessment: EPA Region 1 concludes that the TMDL document meets the requirements for describing the TMDL waterbody segments, pollutants of concern, and priority ranking, and identifying and characterizing sources of impairment.

In addition, on page 73 of the TMDL document, Vermont DEC indicates that additional waterbodies may be added to this TMDL over time. EPA notes that this TMDL document may apply to waters found to be impaired by bacteria in the future, provided that VTDEC's intent to add more impaired waters to the TMDL is made clear, the public has an opportunity to provide comments, and EPA approves the proposed additional TMDLs. In appropriate circumstances in the future, VTDEC may submit additional TMDLs to EPA for specific waterbodies to be added for coverage under the statewide bacteria TMDL document. The State will need to either provide public notice for review of the additional TMDLs alone, or as part of the public notice process associated with the biannual review of the State's Section 303(d) list (as suggested on page 4 of the TMDL document). In its public notice requesting review and comment, VTDEC will need to clearly state its intent to list the newly assessed waterbodies as impaired and to apply the appropriate waterbody-specific bacteria TMDLs. The State will not need to resubmit the approved Core document at such times. Rather, it should reference the document and update certain waterbody-specific information contained in the original core document in the introductory materials of its submission. VTDEC should also provide the same type of detailed information on the additional impaired waterbodies and their TMDLs as are contained in the appendices that accompany this original submission.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribe water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation. A numeric water quality target for the TMDL (a quantitative value used to measure whether or not the applicable water quality standard is attained) must be identified. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, usually site specific, must be developed from a narrative criterion and a description of the process used to derive the target must be included in the submittal.

The TMDL report defines the appropriate water quality criteria for reducing public health risk from waterborne disease-causing organisms, for protecting designated uses, and for implementing the antidegradation policy (pages 6-9 of the TMDL report). Water quality classification and water quality standards for all surface waters of the State of Vermont have been promulgated by the Vermont Water Resources Panel.

According to Vermont's water classification program, bacteria-impaired waters are classified as A or B with the majority of waters being Class B. Escherichia coli (E. coli) is the indicator organism for all waters. Vermont's water quality criteria for bacteria are used as the numeric

water quality targets for the bacteria TMDLs (see Table 2.2 on page 8 of TMDL report). Because all the impaired segments addressed by this TMDL submittal are Class B waters, the numeric target for all segments is the same (77 organisms E. coli/100ml).

Vermont's water quality standards for bacteria for Class B waters include criteria for instantaneous E. coli counts only (there are no Class B criteria based on geometric means), so the TMDL targets are established based on the single sample measure for Class B waterbodies. Vermont's water quality standards for bacteria for Class A waters include criteria for both instantaneous E. coli counts (33 E. coli organisms/100 ml) and geometric mean (18 E. coli organisms/100ml) which would be applicable to future Class A waterbodies to be addressed by this bacteria TMDL, unless VT water quality criteria for bacteria were to be changed.

For comparative and informational purposes only, the TMDL report also displays targets and estimated percent reductions based on the National Recommended Water Quality Criteria for bacteria (1986) -- including a different single sample maximum (235 E. coli organisms/100ml), and a different geometric mean (126 E. coli organisms/100ml) (see Section 8.3 TMDL report). However, the TMDL report clearly indicates that the current Vermont criteria represent the actual TMDL targets (see Table 5-1 TMDL report).

Assessment: EPA concludes that VTDEC has properly described and interpreted the applicable water quality standards (in Section 2 of the TMDL document) to set the TMDL targets. Vermont DEC is directly applying the numeric criteria in its water quality standards as the TMDL targets.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

As described in EPA guidance, a TMDL identifies the loading capacity of a waterbody for a particular pollutant. EPA regulations define loading capacity as the greatest amount of loading that a water can receive without violating water quality standards (40 C.F.R. § 130.2(f)). The loadings are required to be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. § 130.2(i)). The TMDL submittal must identify the waterbody's loading capacity for the applicable pollutant and describe the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In most instances, this method will be a water quality model. Supporting documentation for the TMDL analysis must also be contained in the submittal, including the basis for assumptions, strengths and weaknesses in the analytical process, results from water quality modeling, etc. Such information is necessary for EPA's review of the load and wasteload allocations which are required by regulation.

In many circumstances, a critical condition must be described and related to physical conditions in the waterbody as part of the analysis of loading capacity (40 C.F.R. § 130.7(c)(1)). The critical condition can be thought of as the "worst case" scenario of environmental conditions in the waterbody in which the loading expressed in the TMDL for the pollutant of concern will continue to meet water quality standards. Critical conditions are the combination of environmental factors (e.g., flow, temperature, etc.) that results in attaining and maintaining the water quality criterion and has an acceptably low frequency of occurrence. Critical conditions are important because they describe the factors that combine to cause a violation of water quality standards and will help in identifying the actions that may have to be undertaken to meet water quality standards.

Vermont's bacteria TMDLs consist of targets for allowable concentrations of bacteria, expressed as E. coli counts/100 ml of water. Vermont DEC considers the concentration-based TMDL targets to be very useful for guiding implementation of bacteria controls because the targets are easy to understand, and achievement of the targets is readily assessed by groups with limited

resources (see Section 5.2 of the TMDL document).

Vermont's water quality criteria for bacteria apply year round at all times. By setting the TMDL targets equal to the bacteria criteria, the TMDLs are also applicable at all times and are therefore protective of water quality under all conditions and seasons.

These TMDLs set a goal of meeting bacteria water quality criteria at the point of discharge for all sources in order to meet water quality standards throughout the waterbody. Achievement of the goal will be assessed by ambient water quality monitoring.

Assessment: TMDLs can be expressed in various ways, including in terms of toxicity, which is a characteristic of one or more pollutants, or by some "other appropriate measure" (40 C.F.R. §130.2(i)). The target loading capacities expressed in the TMDL document are set at levels which assure WQS will be met (criteria at point of discharge). The concentration loading capacity is based on the concentration criteria for each water body. If all sources of pathogens are at or below the water quality criteria, then it follows that the receiving water will meet the WQS for bacteria. Attainment of the concentration based loading capacity will achieve water quality criteria for both dry and wet weather and for all storm events whenever they occur (i.e., on any given day).

EPA's November 15, 2006 guidance entitled "Establishing TMDL 'Daily' Loads in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al.*, No.05-5015, (April 25, 2006) and Implications for NPDES Permits," recommends that TMDL submittals express allocations in terms of daily time increments. This guidance also acknowledges that the decision of the U.S. Court of Appeals for the Second Circuit, *NRDC v. Muszynski*, 268 F.3d 91 (2nd Cir. 2001), established the controlling legal precedent for cases brought in the Second Circuit, which includes Vermont. In this decision, the Court required a reasoned explanation for the choice of any particular non-daily load. While this decision provides some flexibility on the use of the daily time increment, EPA believes that the Vermont statewide bacteria TMDL document nevertheless expresses TMDL targets on a daily basis. This is because the TMDL targets apply on any given day whenever the water quality standards are in effect.

In summary, the loading capacity targets are directly linked to the bacteria criteria in Vermont's water quality standards to achieve the designated uses of the waterbodies addressed by this TMDL report. In addition, EPA concludes that the TMDL targets address critical conditions and are consistent with EPA guidance on the daily time increment.

4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity allocated to existing and future nonpoint sources and to natural background (40 C.F.R. § 130.2(g)). Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. § 130.2(g)). Where it is possible to separate natural background from nonpoint sources, load allocations should be described separately for background and for nonpoint sources.

If the TMDL concludes that there are no nonpoint sources and/or natural background, or the TMDL recommends a

zero load allocation, the LA must be expressed as zero. If the TMDL recommends a zero LA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero LA implies an allocation only to point sources will result in attainment of the applicable water quality standard, and all nonpoint and background sources will be removed.

The load allocation (LA) relates to existing and future nonpoint sources, natural background, and stormwater runoff not subject to NPDES permitting. LAs are allocated based on the criteria established by Vermont's water quality standards, or are set at zero for prohibited discharges (see Table 5-1 of the TMDL report). For example, LAs for non-NPDES stormwater are established at 77/100 ml E. coli for Class B waters, or "as naturally occurs" if the only source is wildlife.

Assessment: As discussed in Section 3 of this document (under loading capacity), Vermont DEC used the applicable numeric water quality criteria directly related to the use-impairment which the TMDL is designed to address. As discussed in Section 6 of this document (under margin of safety), Vermont DEC set conservative targets based on meeting criteria at the point of source discharge. EPA concludes that the load allocations for bacteria are adequately specified in the TMDLs at levels necessary to attain and maintain water quality standards.

5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to existing and future point sources (40 C.F.R. § 130.2(h)). If no point sources are present or if the TMDL recommends a zero WLA for point sources, the WLA must be expressed as zero. If the TMDL recommends a zero WLA after considering all pollutant sources, there must be a discussion of the reasoning behind this decision, since a zero WLA implies an allocation only to nonpoint sources and background will result in attainment of the applicable water quality standard, and all point sources will be removed.

In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated WLA can be assigned to the group of facilities. But it is necessary to allocate the loading capacity among individual point sources as necessary to meet the water quality standard.

The TMDL submittal should also discuss whether a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur. In such cases, the State/Tribe will need to demonstrate reasonable assurance that the nonpoint source reductions will occur within a reasonable time.

As with the load allocations (LAs), the wasteload allocations (WLAs) are also allocated based on the criteria established by Vermont's water quality standards in Tables 5-1. For example, point sources such as stormwater regulated under the NPDES program ("NPDES-stormwater") are allocated at 77/100 ml E. coli for Class B waters, and discharges of untreated wastewater are given an allocation of zero because these discharges are prohibited. Specific TMDL end points are listed for each impaired waterbody in Appendices 1-18 of the TMDL document, and estimated percent reductions needed for each waterbody are listed in Table 8-3 of the document.

Assessment: Vermont DEC established concentration-based WLAs by applying the numeric criteria directly to each discharge, or zero for prohibited discharges. Aggregate WLAs were established for the stormwater sources because it is impossible to determine with any precision

or certainty the actual and projected loadings for individual discharges or groups of discharges. EPA's November 22, 2002 TMDL guidance suggests that it is acceptable in such cases to allocate stormwater by gross allotments. EPA concludes that the wasteload allocation components of the TMDLs are adequately specified at levels necessary to attain and maintain water quality standards.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1)). EPA guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for

the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

The Vermont bacteria TMDLs provide implicit margins of safety based on conservative assumptions incorporated into the TMDL analysis (see Section 5.3 of the TMDL document). The TMDL targets are established at the same levels as the water quality standards for each waterbody, and do not rely on in-stream processes, such as bacteria die-off, dilution, and settling, which are known to reduce in-stream bacteria concentrations. Given this very conservative TMDL target-setting, there is a high level of confidence that the TMDLs established are consistent with water quality standards, and the entire loading capacity can be allocated among sources. The underlying assumption in establishing a concentration TMDL for bacteria is that if all sources are equal to or below the water quality standards, then the concentration of bacteria in the receiving water will attain standards.

Assessment: EPA concludes that the approach used in developing the concentration-based TMDLs provides for an adequate implicit MOS. There is not a lack of knowledge concerning the relationship between allocations and water quality in this case, where the TMDL applies the criteria as allocations for each source. Setting the concentration TMDL targets at the water quality criteria with no allowance for in-stream bacteria die-off and settling provides an implicit margin of safety.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The method chosen for including seasonal variations in the TMDL must be described (CWA § 303(d)(1)(C), 40 C.F.R. § 130.7(c)(1)).

Vermont DEC considered seasonal variations when developing the TMDL document. Because the TMDLs are set equal to the bacteria criteria, and the criteria are applicable at all times of year, the TMDLs are also applicable at all times of year and protective during all conditions.

Assessment: The bacteria TMDLs apply over the entire time that the bacteria criteria apply, which is year round in Vermont. The TMDL targets will reduce bacteria concentrations to water

quality criteria levels in all seasons. EPA concludes that the TMDLs have adequately addressed seasonal variability.

8. Monitoring Plan

EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (EPA 440/4-91-001), and EPA's 2006 guidance, Clarification Regarding "Phased" Total Maximum Daily Loads, recommend a monitoring plan when a TMDL is developed using the phased approach. The guidance indicates that a State may use the phased approach for situations where TMDLs need to be developed despite significant data uncertainty and where the State expects that the loading capacity and allocation scheme will be revised in the near future. EPA's guidance provides that a TMDL developed under the phased approach should include, in addition to the other TMDL elements, a monitoring plan that describes the additional data to be collected, and a scheduled timeframe for revision of the TMDL.

The Vermont statewide bacteria TMDL report is not a phased TMDL document, but the document includes a list of monitoring programs and initiatives that are intended to measure attainment of water quality standards (Section 5.6 of the TMDL report). For example, Vermont DEC will continue to monitor rivers and lakes through its Lake and River Assessment Program, and beach monitoring will continue through the USACE and the Vermont Department of Health and partnerships with municipalities and other entities. And volunteer monitoring groups will continue to be an important source of bacteria monitoring data in Vermont.

Assessment: EPA concludes that the anticipated monitoring by and in cooperation with Vermont DEC is sufficient to evaluate the adequacy of the TMDL and attainment of water quality standards, although this is not a required element of EPA's TMDL approval process.

9. Implementation Plans

On August 8, 1997, Bob Perciasepe (EPA Assistant Administrator for the Office of Water) issued a memorandum, "New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)," that directs Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired solely or primarily by nonpoint sources. To this end, the memorandum asks that Regions assist States/Tribes in developing implementation plans that include reasonable assurances that the nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. The memorandum also includes a discussion of renewed focus on the public participation process and recognition of other relevant watershed management processes used in the TMDL process. Although implementation plans are not approved by EPA, they help establish the basis for EPA's approval of TMDLs.

The TMDL report provides implementation guidance and identifies existing informational resources on BMPs for the various sources of bacteria (Section 6 of the TMDL report). It also includes an overall description of the implementation process, provides initial suggestions for implementation in each watershed-specific report (see appendices) and describes how more detailed "tactical basin plans" may be developed in conjunction with VTDEC's surface water management strategy. Maps, site-specific data summary tables, and initial descriptions of known or suspected sources are presented in Appendices 1-18. Monitoring data were used to calculate percent reductions needed to meet the concentration-based target for each impairment.

Assessment: Although implementation plans are not a required element for TMDL approval,

Vermont DEC has included implementation guidance and identified many resources to aid implementation. EPA is taking no action on the implementation plan.

10. Reasonable Assurances

EPA guidance calls for reasonable assurances when TMDLs are developed for waters impaired by both point and nonpoint sources. In a water impaired by both point and nonpoint sources, where a point source is given a less stringent wasteload allocation based on an assumption that nonpoint source load reductions will occur, reasonable assurance that the nonpoint source reductions will happen must be explained in order for the TMDL to be approvable. This information is necessary for EPA to determine that the load and wasteload allocations will achieve water quality standards.

In a water impaired solely by nonpoint sources, reasonable assurances that load reductions will be achieved are not required in order for a TMDL to be approvable. However, for such nonpoint source-only waters, States/Tribes are strongly encouraged to provide reasonable assurances regarding achievement of load allocations in the implementation plans described in section 9, above. As described in the August 8, 1997 Perciasepe memorandum, such reasonable assurances should be included in State/Tribe implementation plans and "may be non-regulatory, regulatory, or incentive-based, consistent with applicable laws and programs."

The TMDL targets for point sources in these TMDLs are not less stringent based on any assumed nonpoint source reductions, so documentation of reasonable assurance in the TMDLs is not a requirement. Nonetheless, as explained in the reasonable assurance section (Section 5.7) of the TMDL document, VTDEC's new tactical basin planning process is expected to kick-start implementation in these watersheds. The tactical plans will help bring the necessary attention and resources (associated with both regulatory and non-regulatory programs) to bear for each impaired segment.

Assessment: Although not required, because VTDEC did not increase WLAs based on expected LA reductions, VTDEC has nevertheless described a planning and implementation process that provides some assurance that WQS will be met.

11. Public Participation

EPA policy is that there must be full and meaningful public participation in the TMDL development process. Each State/Tribe must, therefore, provide for public participation consistent with its own continuing planning process and public participation requirements (40 C.F.R. § 130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval must describe the State/Tribe's public participation process, including a summary of significant comments and the State/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. § 130.7(d)(2)).

Inadequate public participation could be a basis for disapproving a TMDL; however, where EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

The public participation process for the bacteria TMDLs is described on in Section 5.5 of the TMDL document. On May 31, 2011, a public notice announcing the availability of the draft TMDL for public review and comment was posted on the VTDEC website and published in newspapers. VTDEC also notified by email many stakeholders across the state. Three public

informational meetings were held (in Richmond, Thetford, and South Londonderry) where the TMDL document was presented and discussed. The public comment period ended on June 24, 2011. Written comments were received from seven parties. A list of all comments received and the VTDEC responses to those comments can be found in the *Response to Comments* document submitted with the final TMDL report.

Assessment: EPA concludes that VTDEC has provided sufficient opportunities for the public to comment on the TMDL, and has provided reasonable responses to the public comments.

12. Submittal Letter

A submittal letter should be included with the TMDL analytical document, and should specify whether the TMDL is being submitted for a technical review or is a final submittal. Each final TMDL submitted to EPA must be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final submittal, should contain such information as the name and location of the waterbody, the pollutant(s) of concern, and the priority ranking of the waterbody.

Assessment: On September 29, 2011, VTDEC submitted Vermont's final Statewide Bacteria TMDL document and associated appendices for EPA approval. The final documents contained all of the elements necessary to approve the TMDL.

Data for entry in EPA's National TMDL Tracking System	
TMDL Name	**Vermont Statewide Bacteria TMDLs (22 segments)**
Number of TMDLs*	22
Type of TMDLs*	Bacteria
Number of listed causes (from 303(d) list)	22
Lead State	Vermont
TMDL Status	Final
Individual TMDLs listed below	

TMDL Segment name	TMDL Segment ID #	TMDL Pollutant ID# & name	TMDL Impairment Cause(s)	Pollutant endpoint	Unlisted?	VTPDES Point Source & ID#	Listed for anything else?
Flower Brook, Mouth to RM 0.5	VT02-05-03	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Otter Creek, Mouth of Middleburry River to Pulp Mill Bridg (4 mi)	VT03-01-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Little Otter Creek, Mouth to RM 7.8	VT03-07-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Little Otter Creek, RM 15.4 to RM 16.4	VT03-07-02	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Lewis Creek, from Lower Covered Bridge upstream to Footbridge (12.3 mi)	VT03-08-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Pond Brook, from Lewis Creek confluence upstream 1.5 mi	VT03-08-02	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Middlebury River, from Mouth upstream 2 mi	VT03-12-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Direct Smaller Drainages to Inner Malletts Bay	VT05-09-02	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT MS4 General Permit 3-9014	

Englesby Brook	VT05-10-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT MS4 General Permit 3-9014	Stormwater
LaPlatte River from Hinesburg to mouth (10.5 mi)	VT05-11-04	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Mud Hollow Brook, from Mouth to 3 mi upstream	VT05-11-05	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Potash Brook	VT05-11-03	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT MS4 General Permit 3-9014	Stormwater
Berry Brook, Mouth up to and including no. trib (1 mi)	VT06-04--01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	Sediment, nutrients
Godin Brook	VT06-04-02	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	Sediment, nutrients
Samsonville Brook	VT06-04-03	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	Sediment, nutrients
Allen Brook	VT08-02-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT MS4 General Permit 3-9014	Stormwater
Huntington River, vicinity of Bridge St in Huntington	VT08-10-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Mad River, mouth to Moretown (6.2 mi)	VT08-18-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
West River, 1 mi below to 0.5 mi above South Londonderry	VT11-17-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
No. Branch, Deerfield River, vicinity of West Dover	VT12-05-02	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	
Whetstone Brook – Brattleboro	VT13-14-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093	

Ompompanoosuc River, USACOE Beach Area to Brimstone Corner	VT14-03-01	471 (E. coli bacteria)	E. coli (471)	77 organisms/100 ml, SSMC		VT Multi-Sector Gen. permit 3-9093

TMDL Type	Point & Nonpoint Sources
Establishment Date (approval)*	Sep 30, 2011
EPA Developed	No
Towns affected*	Berkshire, Brattleboro, Bristol, Buels, Burlington, Charlotte, Colchester, Danby, Dover, Enosburg, Ferrisburgh, Gore, Hinesburg, Huntington, Landgrove, Londonderry, Middlebury, Monkton, Moretown, New Haven, Paulet, Peru, Richford, Ripton, Salisbury, Shelburne, South Burlington, Starksboro, Stratford, Thetford, Tinmouth, Vershire, Waitsfield, Waltham, West Fairlee, Weston, Williston, Wilmington