STATE OF VERMONT

2014

-FINAL-

LIST OF PRIORITY SURFACE WATERS

PART B. IMPAIRED SURFACE WATERS - NO TOTAL MAXIMUM DAILY LOAD DETERMINATION REQUIRED

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Overview

All waters listed in **Part B** are assessed as "impaired" and do not require development of a TMDL as described in 40 CFR 130.7. Impaired waters that do not need a TMDL are those where other pollution control requirements (such as best management practices) required by local, state or federal authority are expected to address all water-pollutant combinations and the Water Quality Standards are expected to be attained in a reasonable period of time. These waters correspond to Category 4b of EPA's Consolidated Assessment Listing Methodology.

Explanation of Column Headings

Waterbody ID - An alphanumeric code used to spatially locate designated surface waterbodies. For example, VT01-02 and VT01-03L05 represent a river and a lake waterbody, respectively, which are located in Vermont river basin #01. River basin #01 includes the Batten Kill, Hoosic and Walloomsac rivers; there are 17 river basins for planning purposes identified in Vermont. A statewide map has been included that names these 17 river basins and identifies their approximate boundaries.

ADB Code(s) – Assessment Database segment code used for EPA tracking purposes. If blank, Waterbody ID represents entire ADB code.

Segment Name/Description - The name of the river/stream segment or lake/pond.

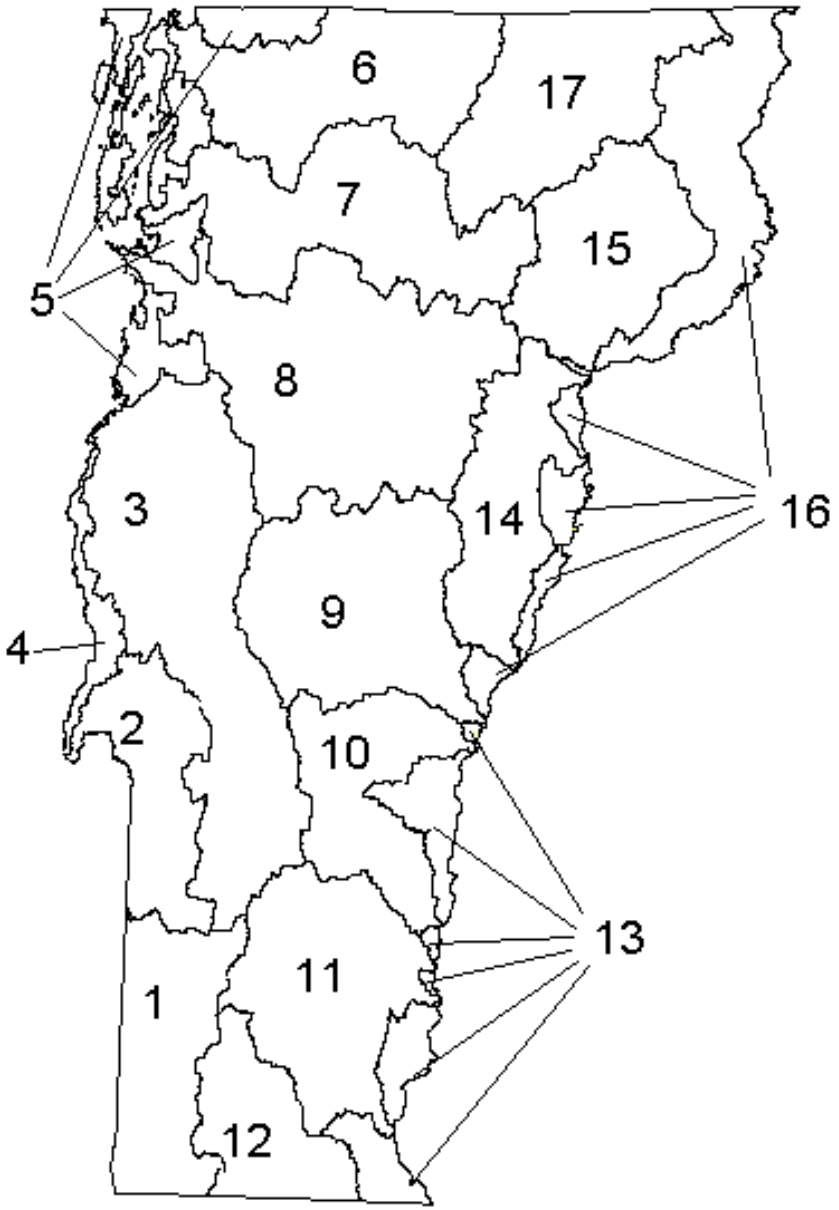
Pollutant(s) - The pollutant or pollutants that cause a violation of the Vermont Water Quality Standards (VTWQS).

Use(s) Impaired - An indication of which designated or existing uses are impaired. The following conventions are used to represent a specific use:

AES - aesthetics
ALS or AH - aquatic life (biota and/or habitat) support
2CR - secondary contact recreation (fishing, boating)
FC - fish consumption
DWS - drinking water supply
CR - contact recreation (i.e. swimming)

Surface Water Quality Problem(s) - A brief description of the problem found in the particular segment.

Rationale - A narrative summary explaining why a TMDL determination is not needed to correct the specific impairment



Major Vermont River Basins

1. Battenkill
2. Poultney-Mettawee
3. Otter Creek
4. Lower Lake Champlain
5. Upper Lake Champlain
6. Missisquoi
7. Lamoille
8. Winooski
9. White
10. Ottauquechee
11. West
12. Deerfield
13. Lower Connecticut
14. Wells, Waits, Ompompanoosic
15. Passumpsic
16. Upper Connecticut
17. Lake Memphremagog

Part B. Waters appearing below have documentation and data indicating impairment and do not meet VT Water Quality Standards. However, according to USEPA Listing Guidance, these waters do not require a TMDL because other pollution control requirements required by local, state, or federal authority are stringent enough to implement any water quality standard (WQS) applicable to such waters.

Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT05-10L01	04	BURLINGTON BAY - LAKE CHAMPLAIN - PINE STREET BARGE CANAL (Burlington)	PRIORITY & NONPRIORITY ORGANICS, METALS, OIL, GREASE, PCBs	ALS, CR, 2CR	CONTAM'N FROM COAL TAR IN SEDIMENTS OF PINE ST BARGE CANAL (SITE #770042)

No TMDL is necessary for this impairment as authority and legal means are available and in place to address the source of impairment. The authority and legal means that are available to DEC and the US EPA are considered sufficient to attain Water Quality Standards in the future. DEC authority is under 10 VSA 6603 and 6610a. US EPA authority is CERCLA (42 USC section 9601 - 9675).

The Pine Street Barge Canal Coordinating Council (PSBC Council) is overseeing implementation of the May 1998 Cleanup Plan. Cleanup Plan was reviewed and approved by EPA. Personnel from DEC's Hazardous Materials Division participate with and serve on the Council.

This is an EPA Superfund site designated under CERCLA. There are legal requirements in place that apply to the source of the pollutants contributing to the impairment. The performance standards identified in the Statement of Work are sufficient to remediate the problem and are consistent with VT Water Quality Standards when implementation of the remediation/clean-up plan is complete.

An extensive water quality monitoring plan is in-place to track effectiveness of pollution controls implemented and compliance with VT Water Quality Standards.

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Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT06-08	01	JAY BRANCH, RM 7.3 TO RM 9.1	SEDIMENT	ALS	EROSION FROM LAND DEVELOPMENT ACTIVITIES

No TMDL is necessary as DEC has the authority and legal means available to eliminate the sources causing this impairment. The authority and legal means that are available to DEC are sufficient to attain WQS and enable DEC to utilize enforcement authority as it exists under 10 VSA 1272.

The initial impairment of the Jay Branch reach upstream from RM 8.3 was identified in 2004 and was attributed to the failure to comply with applicable Vermont construction and erosion control permits and operational stormwater permits. §1272 Orders were issued and an enforcement case was initiated by ANR. Ultimately, the remediation measures associated with the enforcement action and future permit compliance enforcement was expected to allow the stream reach to return to compliance with the WQS.

Jay Peak Resort (JPR) submitted a Water Quality Remediation Plan (WQRP) to the Watershed Management Division (WSMD) in 2006 that was updated in 2009. The WQRP was required per the requirements of a §1272 Order issued by DEC concerning the sediment impairment of the Jay Branch and to Jay Branch-Tributary #9. Remediation projects have included stormwater treatment and revegetation of disturbed soils. A corridor management plan has been instituted including stream setbacks, crossing and vegetation management. Ongoing and future projects include channel restoration, road maintenance and culvert replacement.

The impaired reach of Jay Branch has in the past extended from RM 9.1 to RM 8.3; however, based on the latest monitoring update the impaired reach now extends down to RM 7.3 based on two years of fair to poor conditions at RM7.3. Water quality conditions prior to 2011 in this reach vacillated close to WQS compliance but the years 2011 and 2012 showed significant noncompliance. Part of this declining condition may have been the result of excessively heavy flow events in those years, although, preliminary data from 2013 indicates considerable improvement.

Based on the latest conditions in the Jay Branch and the relatively slow pace of recovery, VTDEC has issued a follow-up §1272 Order in 2014 to have JPR revisit the original WQRP and identify, prioritize and implement an additional suite of remedial actions to be completed in two years. Periodic reporting and continued biomonitoring will also be mandated.

Part B. Waters appearing below have documentation and data indicating impairment and do not meet VT Water Quality Standards. However, according to USEPA Listing Guidance, these waters do not require a TMDL because other pollution control requirements required by local, state, or federal authority are stringent enough to implement any water quality standard (WQS) applicable to such waters.

Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT06-08	02	JAY BRANCH-TRIBUTARY #9	SEDIMENT	ALS	EROSION FROM LAND DEVELOPMENT ACTIVITIES

No TMDL is necessary as DEC has the authority and legal means available to eliminate the sources causing this impairment. The authority and legal means that are available to DEC are sufficient to attain WQS and enable DEC to utilize enforcement authority as it exists under 10 VSA 1272.

The initial impairment of this stream reach resulted from failure to comply with applicable Vermont construction and erosion control permits and operational stormwater permits in the early 2000's. Section 1272 Orders were issued and an enforcement case was initiated by ANR. Ultimately, the remediation measures associated with the enforcement action and future permit compliance enforcement was expected to allow the stream reach to return to compliance with the WQS.

Jay Peak Resort (JPR) submitted a Water Quality Remediation Plan (WQRP) to the Watershed Management Division (WSMD) in 2006 that was updated in 2009. The WQRP was required per the requirements of a Section 1272 Order issued by DEC concerning the sediment impairment of the Jay Branch and to Jay Branch-Tributary #9. The WSMD continues to work with JPR to refine the remediation actions and monitoring requirements of the WQRP. Upon completion of the remediation projects, additional requirements may be required and will be dependent upon biomonitoring results and the progress towards meeting VTWQS for the impaired reaches in a reasonable timeframe.

Based on the latest (2012) annual report, Tributary 9 remains in a state of noncompliance with the VTWQS for the years 2011 and 2012. The stream had shown a positive response to mitigation efforts in 2007 and 2008 but declines over the last several years now leave the biological condition of the stream as poor. However, preliminary data from the 2013 indicates an upswing in water quality whereby only one metric was well short of attainment, while another was on the margins of attainment. Compared to multiple metrics falling short in the previous several years, this is an improved condition.

Based on these latest assessment data, VTDEC has issued a follow-up §1272 Order in 2014 to have JPR revisit the original WQRP and identify, prioritize and implement an additional suite of remedial actions to be completed in two years. Periodic reporting and continued biomonitoring will also be mandated.

VT06-08	07	SOUTH MOUNTAIN BRANCH, TRIBUTARY #3	SEDIMENT	ALS	EROSION FROM PARKING AREAS AND ON-MOUNTAIN ACTIVITIES

No TMDL is necessary as DEC has the authority and legal means available to eliminate the sources causing this impairment. The authority and legal means that are available to DEC are sufficient to attain WQS and enable DEC to utilize enforcement authority as it exists under 10 VSA 1272.

The South Mountain Branch is a tributary Jay Branch and is located in the town of Jay. The streams within the watershed are managed as Class B waters, with cold water fishery. South Mountain Branch, Tributary #3 enters the South Mountain Branch at about RM 2.3, and drains the south side of Jay Peak mountain and portions of the Stateside lodge and parking area.

Based on biomonitoring conducted by Jay Peak Resort (JPR) and VTDEC that was initiated in 2011, Tributary #3 to South Mountain Branch shows noncompliance with VTWQS biocriteria. Indications from habitat assessments and water quality monitoring, impacts due to sediment appear to be the primary stressor. As reported in the 2012 update of the water quality remediation plan prepared for JPR, multiple problematic sediment sources have been identified as potential sites for remedial measures.

In the spirit of the ongoing WQRP efforts at JPR, VTDEC intends to work within that framework as a means of identifying sediment sources and ordering their remediation. VTDEC has issued a follow-up §1272 Order in 2014 to have JPR revisit the original WQRP and identify, prioritize and implement an additional suite of remedial actions to be completed in two years. Periodic reporting and continued biomonitoring will also be mandated.

Part B. Waters appearing below have documentation and data indicating impairment and do not meet VT Water Quality Standards. However, according to USEPA Listing Guidance, these waters do not require a TMDL because other pollution control requirements required by local, state, or federal authority are stringent enough to implement any water quality standard (WQS) applicable to such waters.

Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT07-01	01	LOWER LAMOILLE RIVER FROM CLARKS FALLS DAM TO ROUTE 2 BRIDGE (6 MILES)	LOW D.O.	ALS	3 DAMS (CLARKS, MILTON, PETERSON) CREATE D.O. PROBLEMS DOWNSTREAM

No TMDL is necessary for this impaired segment as DEC has the authority and legal means available to address the dissolved oxygen (D.O.) problem found below the Clarks Falls hydroelectric facility. The authority and legal means that are available to DEC are sufficient to attain Water Quality Standards in the near future.

A new federal license for the Lamoille River Hydroelectric Project was issued in June 2005. Articles 407 and 408 address post-licensing water quality monitoring and D.O. enhancement, respectively. The new license provides for conservation flows that may improve the D.O. regime sufficiently to obviate the need for specific mechanical enhancements, such as turbine aspiration. FERC approved the licensee's water quality monitoring and dissolved oxygen enhancement plan on December 5, 2006, although the licensee elected to initiate sampling in Summer 2006. Because of higher than normal flows in 2006, sampling continued in 2007. Conditions were again somewhat atypical in 2007 because the Milton Station was off line, resulting in highly reoxygenated flows entering Peterson impoundment. Consequently, the Department has asked CVPS to continue sampling in summer 2008 before it determines whether there is sufficient data to conclude that the post-licensing operational changes have achieved compliance with the Water Quality Standards. If the data indicates that standards are not being met, the licensee must propose and implement enhancement measures.

Currently, sufficient data has not been collected to make a final WQS determination; however, the operational changes have occurred to address the potential low dissolved oxygen condition downstream.

VT08-02	07	UNNAMED TRIB TO WINOOSKI RIVER	METALS (Fe, As)	ALS	SO. BURLINGTON LANDFILL LEACHATE ENTERING SURFACE WATER

No TMDL is necessary for this impairment as DEC has the authority and legal means available to address the source causing this particular impairment. The authority and legal means that are available to DEC are sufficient to attain Water Quality Standards.

This is a small stream that is pumped around the South Burlington Landfill. Leachate-contaminated seeps at the base of the landfill have in the past drained into a wetland area connected to the stream. Currently, curtain drains are in place and leachate is pumped, collected and transported to a permitted wastewater treatment facility. The landfill facility was ordered by DEC to be closed with capping. Capping occurred in 1992. The facility has a post-closure court order requiring water quality monitoring and maintenance of the site. Water quality sampling is conducted semi annually to determine effectiveness of treatment. Water quality improvement is expected over time as water quality treatment and site management continues. During the latest sampling period, May 2013, surface water quality sampling locations indicate that iron and arsenic concentrations remain above the VTWQS for the protection of aquatic biota.

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Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT08-08	01	MUDDY BROOK (0.1 MILE)	METALS (Fe)	AES	CV LANDFILL: LEACHATE ENTERING SURFACE WATER

No TMDL is necessary for this impairment as DEC has the authority and legal means available to address the source causing this particular impairment. The authority and legal means available to DEC are sufficient to attain Water Quality Standards and have been implemented.

This is a small stream that flows around the Central Vermont Landfill. Until summer 2001, leachate had entered the stream from seeps located along the side slopes of the landfill. The Landfill was ordered by DEC to be closed and capped in 1993. Due to the slumping of the capping soils in 2001, the original clay cap was removed, the landfill was re-graded and a synthetic cap was installed along with a new toe drain and gas collection system. The landfill facility has a post-closure court order requiring water quality monitoring and maintenance of the site. Currently the amount of water collected in the drains is significantly less than previously reported. Through May 2011, monitoring data shows sporadic but inconsistent compliance with the VTWQS, however, monitoring is scheduled to continue.

VT08-12	03	BIG SPRUCE BROOK, RM 0.2 TO RM 0.3	SEDIMENT, IRON	ALS	SEDIMENT IMPACTS, IRON SEEPS

No TMDL is necessary for this impairment as DEC has the authority and legal means available to address the source causing this particular impairment. The authority and legal means that are available to DEC are sufficient to attain Water Quality Standards.

Big Spruce Brook, located in the town of Stowe Vermont, is a small, cold water, Class B stream and is a tributary to the West Branch of the Little River. The lower watershed and stream reaches of Big Spruce Brook are located on property owned by the Stowe Mountain Resort (SMR).

Big Spruce Brook was slated for 303(d) listing in 2010 due to iron and sediment discharges resulting in the continued non-compliance at RM 0.3. During the draft list comment period, Stowe Mountain Resort (SMR) representatives and their environmental consultants presented to VTDEC staff site specific information regarding the sources of the impairment. The information presented was compelling that the primary sources of the impairment had been identified. VTDEC staff concurred that the sources presented were consistent with on-site observations. Namely, a localized groundwater seep associated with the practice green was contributing significant iron discharges to the stream and were having a dramatic impact on the macroinvertebrate community. Additionally, intermittent sediment discharges associated with an upstream stormwater sedimentation basin were occurring and placing additional stress on the macroinvertebrate community. It was determined that remediation of these two sources would allow the stream to come back into compliance with the Vermont Water Quality Standards within a reasonable period of time.

On May 6, 2010, DEC issued an order pursuant to 10 V.S.A. §1272 ordering SMR to, no later than 45 days following the Order, develop remediation strategies for the two identified pollutant sources and submit them to the Department for approval. As of November 2010, SMR had completed all remediation measures pursuant to the 1272 Order to the satisfaction of VTDEC staff. Specifically, the iron seep remediation project was installed and stabilized and stormwater management improvements were completed to reduce sediment impacts. Visual assessment has occurred at both sites and all appears to be functioning as planned.

Annual biomonitoring has shown that as of the 2012, site RM0.3 was in compliance with the VTWQS for the first time since 2007, suggesting the remedial measures are having a positive effect. However, a monitoring station slightly downstream at RM0.2 now has been rated fair to poor over the past three years. Since RM0.2 is also receiving the benefits of the BMPs implemented upstream for RM0.3, additional time is needed to see if the benefits extend to RM0.2.

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Waterbody ID	ADB Code(s)	Segment Name/ Description	Pollutant(s)	Use(s) Impaired	Surface Water Quality Problem(s)
VT08-12	04	WEST BRANCH LITTLE RIVER, RM 7.5 TO 8.0	UNDEFINED	ALS	IMPACTS TO MACROINVERT. COMMUNITY; POTENTIAL SOURCES INCLUDE HYDROLOGIC MODIFICATION, SEDIMENT, LOW pH

No TMDL is necessary for this impairment as VTDEC has the authority and legal means available to address the source causing this particular impairment. The authority and legal means that are available to DEC are sufficient to attain Water Quality Standards.

The mid-upper reaches of the West Branch Little River, located in the town of Stowe, Vermont, is a small, cold water, Class B stream and drains the eastern reaches of Mt Mansfield. Much of the mid-upper reaches of the stream receive, either directly or through tributaries, runoff from the developed areas of the Stowe Mountain Resort (SMR).

The Agency placed the reach between rivermile (RM) 7.5 and 8.0 of West Branch Little River on Part C of the 2002 Vermont List of Priority Waters, thereby identifying it as in need of further assessment to determine compliance with the VTWQS. The site has been re-evaluated with each subsequent biennial listing cycle, with consistently marginal attainment. In 2012, based on biomonitoring data collected between 2008 - 2011, the Agency determined that the West Branch Little River from RM7.5 to RM8.0 was no longer in compliance with the VTWQS for aquatic life support due to undefined stresses.

Through comments submitted during the draft 303(d) List comment period, SMR proposed it take a series of steps to: 1) investigate potential sources contributing to the impairment, 2) develop and prioritize actions to remediate the problematic areas, and 3) implement the necessary actions to remediate the water quality impairment. On May 3, 2012, DEC issued an order pursuant to 10 V.S.A. §1272 ordering SMR to: 1) by May 30, 2012, conduct a field investigation, develop or improve existing hydrologic models and submit recommendations to eliminate the identified impairment, and 2) by September 30, 2012, complete approved remediation measures and submit proposed monitoring plan for approval.

As of late 2012, all agreed upon BMP measures were completed by SMR. The latest biomonitoring results from 2012 also indicate compliance with the VTWQS for a single year. Additional years of monitoring will be necessary to ensure continued compliance before the reach is no longer considered impaired.

VT08-16	02	TRIB (#23) TO STEVENS BR, BELOW WIILIAMSTOWN WWTF OUTFALL (0.5 MI)	NUTRIENTS	ALS	TREATED EFFLUENT DISCHARGE TO SMALL RECV'ING WATER

No TMDL is necessary as DEC has the authority and legal means available to address the municipal source causing this impairment. The authority and legal means that are available to DEC are sufficient to attain WQS. DEC has NPDES discharge permitting authority under the delegation agreement with EPA. Delegation of NPDES permitting authority means that DEC has adequate authority and legal mechanisms to execute enforcement. Authority to order correction resides within 10 VSA 1272.

Recent biological monitoring downstream of the discharge in 2002 and 2005 indicates considerably improved invertebrate and fish communities, at times exceeding minimum criteria. Sampling in 2010 showed a slight decline in macroinvertebrate community composition as compared to immediately upstream. However, as a result of a VTDEC wastewater facility inspection in 2009, a project to remove sludge in the lagoon and completely replace the aerations systems was scheduled. The project work was completed after the 2010 biomonitoring. Future biomonitoring will indicate the effectiveness of the lagoon upgrade work.

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VT11-15	03	NO. BRANCH, BALL MTN BROOK, STRATTON LAKE TO KIDDER BROOK	MANGANESE	AES	CONTRIBUTIONS/RELEASES OF REDUCED Mn FROM RESERVOIR SEDIMENT COATING STREAM SUBSTRATE ("BLACK ROCKS")

Conditions created by the installed diversion around the pond have resulted in an elimination of the problematic Mn discharge. Staining of the substrate is no longer occurring. Historical staining from previous Mn discharge remains.