



CSO/WWTF-related Bacteria-Impaired Waterbodies

This summary addresses nine waterbodies that are impaired for *E.coli* due to the influence of wastewater treatment facilities (WWTFs) and combined sewer overflows (CSOs) within six municipalities in Vermont: Fairhaven, Vergennes, Rutland, Montpelier, Springfield and St. Johnsbury. For these waterbodies the magnitude of the impairment was not documented with numeric data so no TMDL calculation can be conducted. However, since the sources of the impairment are known, VTDEC is addressing them using the policies outlined in the state's Combined Sewer Overflow Control Policy (1990). This policy insures that "all combined sewer overflows are identified and issued compliance schedules which lead to compliance with Vermont WQS and the Federal Clean Water Act". Communities with combined sewer systems are expected to develop long-term CSO control plans that will eventually provide for full compliance with the Clean Water Act, including attainment of water quality standards. The ultimate goal is CSO elimination.

The USEPA's CSO Control Policy provides information on nine minimum technology-based controls that communities are expected to use to address CSO problems, prior to the implementation of long-term control measures (EPA, 1995). The nine minimum controls are considered a set of good housekeeping practices aimed at minimizing the frequency of CSO discharges at a minimal cost. These controls are measures that can be implemented to reduce the effect of CSOs without large engineering studies or major construction. The nine minimum controls are summarized below, and additional information is provided in EPA's *Guidance for Nine Minimum Controls* [<http://www.epa.gov/npdes/pubs/owm0030.pdf>].

1. Proper operation and regular maintenance programs for the sewer system and CSOs;
2. Maximum use of collection system for storage;
3. Review and modification of pretreatment requirements to ensure CSO impacts are minimized;
4. Maximization of flow to publicly owned treatment works for treatment;
5. Prohibition of CSOs during dry weather;
6. Control of solid and floatable materials in CSOs;
7. Pollution prevention programs to reduce contaminants in CSOs;
8. Public notification program to ensure that public receives adequate notice of CSO events and impacts; and
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

It is anticipated that these segments will remain on the 303(d) (Vermont's Part A) list of impaired waters until water quality standards are met. This summary provides information on the status of the schedule of compliance, and progress toward CSO elimination for the following waters with impairments caused by WWTFs or CSOs:

Table 1: Summary of CSO/WWTF-related bacteria-impaired waterbodies.

Waterbody Name	Waterbody ID	Towns	Impairment
Basin 2: Poultney-Mettawee			
Castleton River, Fair Haven	VT02-03	Fairhaven	<i>E.coli</i>
Basin 3: Otter Creek, Little Otter Creek, and Lewis Creek			
Lower Otter Creek, below Rutland City WWTF	VT03-01	Vergennes, Panton, Ferrisburg	<i>E.coli</i>
Otter Creek below Rutland City WWTF	VT03-05	Rutland City	<i>E.coli</i>
East Creek, mouth to 0.2 mi (below CS) drainage pts #2 and	VT03-14	Rutland City	<i>E.coli</i>
Basin 8: Winooski			
Winooski River above Montpelier WWTF discharge	VT08-05	Montpelier	<i>E.coli</i>
Lower North Branch, Winooski River (approx 1 mile)	VT08-13	Montpelier	<i>E.coli</i>
Basin 10: Ottauquechee, Black			
Black River, from mouth to 2.5 miles upstream (Springfield)	VT10-11	Springfield	<i>E.coli</i>
Basin 15: Passumpsic			
Passumpsic River from Pierce Mills Dam to 5 miles below Passumpsic Dam	VT15-01	St. Johnsbury, Waterford, Barnet	<i>E.coli</i>
Lower Sleepers River in St. Johnsbury	VT15-04	St. Johnsbury	<i>E.coli</i>

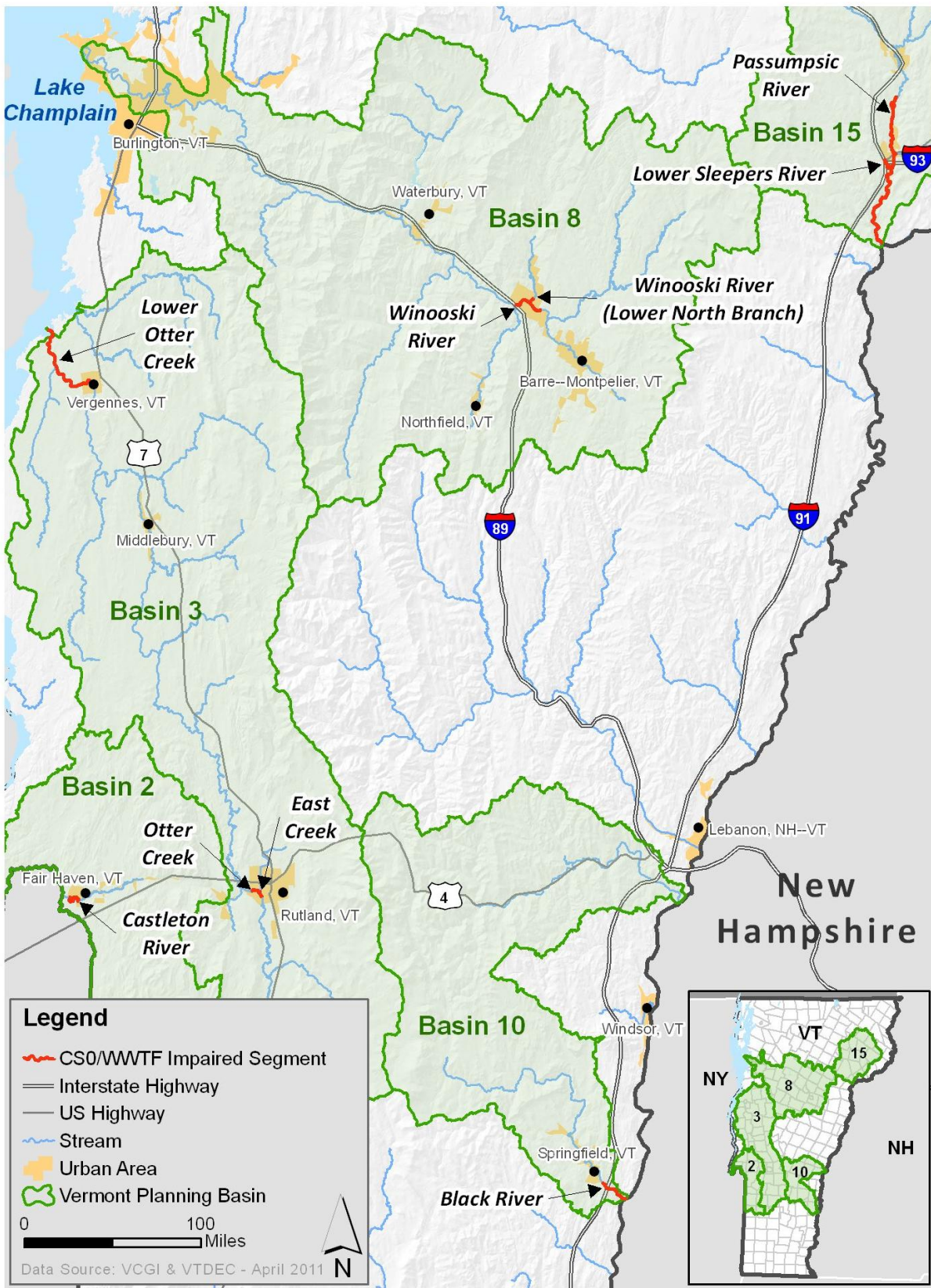


Figure 1: Locations of CSO/WWTF-related bacteria-impaired waterbodies, with planning basins indicated.

Castleton River, Fair Haven

WB ID: VT02-03

Municipality: Fair Haven

Source: Fair Haven WWTF Pumps Station/Combined Overflows

Planning Basin: 2-Poultney-Mattawee

Progress Toward CSO Elimination: Originally there were two combined sewer overflows in the Fair Haven WWTF collection system. The River Street pump station overflow was physically eliminated (plugged). The Adams Street pump station remains.

Schedule of Compliance: The Adams Street pump station still discharges during large storm events to the Castleton River and does not comply with the CSO Control Policy. As a result of a recent inspection the Agency has requested the Town take additional steps to eliminate sources within the service area of the pump station. When the NPDES permit is reissued, conditions to meet the nine minimum controls and monitor the overflow point for compliance will be included.

Lower Otter Creek, below Vergennes WWTF (approx. 7 miles)

WB ID: VT03-01

Municipalities: Vergennes, Panton, Ferrisburg

Source: Vergennes WWTF Pumps Station/Combined Overflows

Planning Basin: 3-Otter Creek, Little Otter Creek and Lewis Creek

Progress Toward CSO Elimination: Three CSOs were identified in the Vergennes collection system. The overflow at the Vergennes Wastewater Treatment Facility has been physically eliminated via repiping the overflow into the WWTF. The Northland Jobs Corp pump station and MacDonough Drive pump station remain and discharge into Otter Creek.

Schedule of Compliance: Improvements were completed this summer (2010) at the Northland Job Corp station and an effectiveness study will be necessary. A 1272 order is pending for the MacDonough Drive station allowing the City to determine how best to proceed (i.e. a plan to reduce I/I) such that this CSO meets the Policy. The Order will also require implementation of the nine minimum controls.

Otter Creek below Rutland City WWTF

WB ID: VT03-05

East Creek, Mouth to 0.2 mi (Below CSO discharge points #2 and #9)

WB ID: VT03-05

Municipality: Rutland City

Source: Rutland WWTF Combined Sewer Overflows

Planning Basin: 3-Otter Creek, Little Otter Creek and Lewis Creek

Progress Toward CSO Elimination: Four CSOs were identified in the Rutland collection system. Three CSOs discharge to East Creek, and one discharges to Otter Creek.

Schedule of Compliance: A 1272 Order was issued on June 5, 2009 which required the City to implement the nine minimum controls and conduct an effectiveness study. The effectiveness study was completed in 2010 and indicated that additional work is required at all four CSOs to comply with the Policy. The Agency is in the process of amending the 1272 Order to require additional work.

Winooski River above Montpelier WWTF discharge

WB ID: VT08-05

Lower North Branch, Winooski River (approx. 1 mile)

WB ID: VT08-13

Municipality: Montpelier

Source: Montpelier WWTF Combined Sewer Overflows

Planning Basin: 8-Winooski

Progress Toward CSO Elimination: Originally there were approximately 15 combined sewer overflows in the Montpelier WWTF collections system. Nine CSOs have been physically eliminated and six remain; three discharge to the North Branch and three discharge to the Winooski River.

Schedule of Compliance: Montpelier has been issued a series of 1272 Orders requiring separation work and effectiveness studies. Based on a recent effectiveness study, additional work is necessary at the remaining CSOs for further elimination or to meet the Policy, however the frequency and magnitude of the overflow events are significantly reduced. Due to the litigation of the Montpelier NPDES Discharge Permit, the Agency has not amended the 1272 Order to require additional abatement. Once the appeal of the NPDES permit has been adjudicated, the 1272 Order will be amended to require additional CSO abatement.

Black River, from mouth to 2.5 mi. upstream (Springfield)

WB ID: VT10-11

Municipality: Springfield

Source: Springfield WWTF Combined Sewer Overflows

Planning Basin: 10-Ottauquechee, Black

Progress Toward CSO Elimination: Originally there were approximately 25 combined sewer overflows in the Springfield WWTF collection system. Eleven CSOs have been physically eliminated and thirteen remain.

Schedule of Compliance: Springfield is under an Enforcement Order to abate these overflows and completed a CSO abatement project in 2010. An effectiveness study will be initiated this summer and completed by the end of 2012.

Passumpsic River from Pierce Mills Dam to 5 miles below Passumpsic Dam

WB ID: VT15-01

Lower Sleepers River, St. Johnsbury

WB ID: VT15-04

Municipality: St. Johnsbury

Source: St. Johnsbury WWTF Combined Sewer Overflows

Planning Basin: 15- Passumpsic

Progress Toward CSO Elimination: Originally there were approximately 24 combined sewer overflows in the St. Johnsbury WWTF collection system. Nine CSOs have been physically eliminated, and fifteen remain. Eleven discharge to the Passumpsic River and four discharge to the Sleepers River.

Schedule of Compliance: St Johnsbury has been issued a series of 1272 Orders requiring the nine minimum controls, separation work, and effectiveness studies. The Agency plans to amend the 1272 Order to require additional abatement in the near future.

References

US EPA (1994). Combined Sewer Overflow Control Policy. United States Environmental Protection Agency. April 19, 1994. Fed. Reg. 18688. Accessed online on May 5, 2011 at: <http://www.epa.gov/npdes/pubs/owm0111.pdf>.

VT DEC (1990). Combined Sewer Overflow Policy. Vermont Department of Environmental Conservation. June, 1990.