

## Combined Sewage Overflows

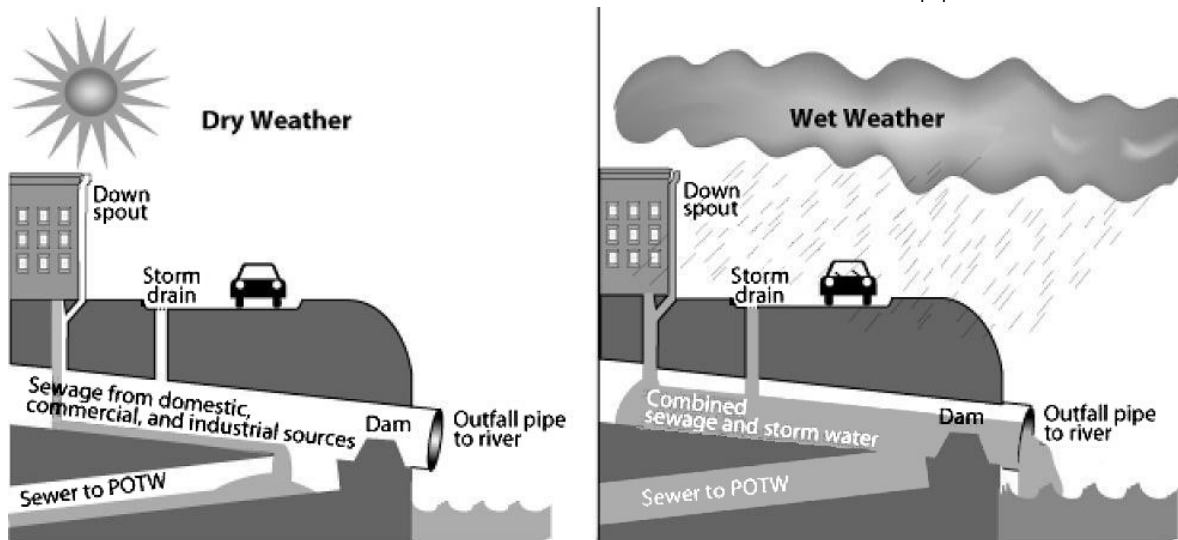
### Department of Environmental Conservation Progress Report (9/19/2018)

#### What's the problem?

Most Vermonters depend on the state's wastewater treatment facilities. Whether part of the 45 percent of residents using a sewer system or one of the 342,650 people on individual septic systems that are pumped, most of this waste will eventually end up at one of the state's 94 direct discharge municipal wastewater treatment facilities.

One small but critical piece of Vermont's wastewater infrastructure has been in the news a lot: *Combined Sewer Overflows (CSOs)*. A combined sewer system collects sewage and stormwater in the same pipe. This wastewater is sent to local wastewater treatment facilities (WWTFs).

These systems work well most of the time. However, when strong storms hit Vermont, the runoff from rain and snowmelt overwhelms the combined system. To prevent sewage backups into basements or onto roadways, some of the untreated wastewater is diverted into lakes and rivers via outfall pipes.



#### Is the problem getting worse?

No. While we're hearing about more overflow events, we are actually seeing a decrease in overflow events statewide. How is this possible? In 2016, the Department of Environmental Conservation (DEC) launched a public CSO alert subscription service to increase the information available to the public. The new subscription service on DEC's [wastewater discharge website](#) allows anyone anywhere anytime receive immediate CSO alerts.

Before 2016, municipalities weren't required to report an overflow event, which meant the public had no idea when CSOs occurred. DEC worked to change the reporting requirements and supported legislation that requires municipalities to provide CSO alerts within one hour of discovery and a full report of the CSO event within 12 hours, and permanent signage at CSO outfalls [[2016 Act 86](#) (H.674)].

#### How much phosphorus spills into the water during an overflow?

A very small percentage of phosphorus ends up in waterways during overflows. EPA researchers found that CSOs have an average phosphorus concentration of 0.7mg/L, or a little less than 6 pounds of phosphorus per million

gallons of overflow. For context, the total amount of phosphorus currently being delivered to Lake Champlain each year is nearly 2 million pounds. While CSOs do not contribute a large amount of phosphorus to lakes and rivers, they do contribute some phosphorus. The State will continue to work with municipalities to find cost-effective ways to reduce or eliminate phosphorus pollution coming from CSOs.

### **What's the State doing to solve the problem?**

The short answer is: quite a lot.

Since 1990, the State has worked with municipalities to eliminate 70% of Vermont's CSO outfall points, bringing the number down from 178 to 53. Twenty CSOs were eliminated in the last three years. In the last year alone, 14 outfalls were eliminated. We're seeing success in towns that struggled for decades with sewage overflows. Springfield, for example, eliminated 27 total outfalls since 1990 and removed 12 CSOs in the past year.

Fourteen municipalities still have CSOs. Using a combination of financial incentives and legal requirements, we're working with these municipalities to control or eliminate the remaining CSOs to meet water quality standards. This is an expensive journey. It costs on average about \$2.1 million to eliminate a single system. It will require at least \$126 million to eliminate the remaining systems in Vermont. Eliminating CSOs are one aspect of the work municipalities are engaged in to meet broader clean water goals. Elimination efforts must be considered in the context of other critical projects like treatment system upgrades and installing stormwater controls.

#### *Legal requirements:*

- In 2016 DEC issued the Combined Sewer Overflow Rule and is charged with enforcing it. This rule requires every municipality with CSOs to create long-term control plans for how they will bring their CSOs into compliance with Vermont water quality standards.
- DEC is in the process of issuing enforcement orders to each of the 14 CSO municipalities to create these long-term control plans.

#### *Financial incentives:*

- In the 2017 Capital Bill, the Legislature funded \$1.3 million in municipal pollution control grants (25% match) for CSO projects in Springfield, St. Johnsbury, Middlebury, Rutland City, and St. Albans. DEC supports annual appropriations in the Capital Bill to fund grants, up to 35% cost share starting in 2019, to municipalities for construction costs related to CSOs.

#### **More information:**

- To sign up or public alerts, visit <http://dec.vermont.gov/permits/public-notice>
- To learn more about DEC's overall wastewater management strategy, visit <http://dec.vermont.gov/watershed/wastewater>
- To contact DEC's Wastewater Management staff, visit <https://dec.vermont.gov/watershed/wastewater/contacts>

**1272 AND EPA ORDERS ISSUED (AS OF 9/19/2018)**

<b>Facility Name</b>	<b>Receiving Water</b>	<b># of Outfalls</b>	<b>New 1272 or Order of Consent Issued</b>
Burlington Main	Lake Champlain	3	Currently in Legal Review
Burlington East/River	Winooski River	1	
Burlington North	Winooski River	1	
Enosburg Falls	Missisquoi River	1	X
Fair Haven	Castleton River	1	
Hartford / White River Junction	Connecticut River	5	X
Middlebury	Otter Creek	4	X
Montpelier	Winooski River	6	X
Newport City	Clyde River	6	
Northfield	Dog River	1	
Rutland	Otter Creek	4	X
Springfield	Black River	2	X
St. Johnsbury	Passumpsic River	15	X
St. Albans	Lake Champlain via contiguous wetlands - Stevens Brook	1	X
Vergennes	Otter Creek	1	X
Woodstock Main	Ottaquechee River	1	

## Combined Sewer Outfalls (by Municipality and Wastewater Treatment Facility)

	<b>1990s</b>	<b>2015</b>	<b>2018</b>
Barton	7	1	
Brandon	3		
Burlington Main	5	3	3
Burlington East	1	1	1
Burlington North	1	1	1
Enosburg	2	1	1
Fair Haven	2	2	1
Hardwick	2		
Hartford WRJ	5	5	5
Ludlow	1		
Lunenburg	1		
Lyndon	5		
Middlebury	9	4	4
Montpelier	15	6	6
Newport (City)	21	6	6
Northfield	2	1	1
Poultney	4		
Randolph	2	1	
Richford	2	2	
Rutland	6	4	4
St. Albans	6	1	1
St. Johnsbury	24	17	15
Springfield	29	14	2
Swanton	6		
Vergennes	2	2	1
Wilmington	2		
Windsor	9		
Winooski	2		
Woodstock	2	1	1
<b>TOTAL</b>	<b>178</b>	<b>73</b>	<b>53</b>

**COMBINED SEWER OVERFLOW EVENTS (2016, 2017, 2018)**

<b>Facility Name</b>	<b>Wet weather CSO Overflows 2016</b>	<b>Wet weather CSO Overflows 2017</b>	<b>Wet weather CSO Overflows 2018 as of 9/1/18</b>	<b># of Outfalls</b>
<b>Burlington Main</b>	<b>5</b>	<b>10</b>	<b>11</b>	<b>3</b>
<b>Burlington East/River</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Burlington North</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>
Enosburg Falls	0	0	0	1
<b>Fair Haven</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Hartford / White River Junction</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>5</b>
<b>Middlebury</b>	<b>2</b>	<b>7</b>	<b>2</b>	<b>4</b>
<b>Montpelier</b>	<b>14</b>	<b>44</b>	<b>18</b>	<b>6</b>
Newport City	0	0	0	6
<b>Northfield</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>1</b>
Richford	0	CSOs eliminated	NA	NA
<b>Rutland</b>	<b>84</b>	<b>83</b>	<b>72</b>	<b>4</b>
<b>Springfield</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>St. Johnsbury</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>15</b>
<b>St. Albans</b>	<b>4</b>	<b>10</b>	<b>3</b>	<b>1</b>
<b>Vergennes</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>1</b>
Woodstock Main	0	0	0	1

Annual User Rates, Median Household Income (MHI), and Affordability  
for 210 Gallon-Per-Day Single Family Residences

Town	User Rate/Year	MHI	Percent of MHI
Burlington	\$696	\$36,992	1.49%
Enosburg Falls	\$600	\$39,500	1.52%
<b>Fair Haven</b>	\$1002	\$39,904	<b>2.51%</b>
Hartford WRJ	\$599	\$59,365	1.01%
Middlebury	\$636	\$51,186	1.24%
Montpelier	\$925	\$60,347	1.53%
<b>Newport City</b>	\$793	\$32,083	<b>2.47%</b>
Northfield	\$838	\$60,938	1.37%
Rutland City	\$660	\$41,502	1.59%
St Albans City	\$734	\$46,133	1.59%
St Johnsbury	\$656	\$42,944	1.53%
Springfield	\$505	\$41,152	1.23%
<b>Vergennes</b>	\$1,354	\$53,080	<b>2.55%</b>
Woodstock	\$910	\$75,482	1.21%