
Final wastewater treatment facility wasteload allocations for communities in the Lake Memphremagog watershed: Barton, Brighton, Newport and Orleans

Background

In conjunction with the development of the Lake Memphremagog phosphorus Total Maximum Daily Load (TMDL) in 2017, the Watershed Management Division (Division) also conducted the Agency of Natural Resources' Wasteload Allocation Process (Administrative Rule 87-46) to establish phosphorus allocations for four communities with wastewater treatment facilities in the Lake Memphremagog watershed – Barton, Brighton, Newport and Orleans. This document outlines the steps undertaken during that process to be consistent with the Rule.

Wasteload allocation process

Watershed and lake modeling conducted in the development of the Lake Memphremagog TMDL was used to develop allocation scenarios consistent with nonpoint source allocations deemed feasible to remedy the phosphorus impairment in the lake. The Division presented four wasteload allocation (WLA) alternatives as part of the draft TMDL which included a Division preferred option that reduced permitted phosphorus loading from all facilities by a total of 33% (WLA-D in Table 1). The Division presented these alternatives in the Draft TMDL posted for public comment, a summary TMDL “fact sheet” and in several public meetings in the watershed. The four wasteload allocation alternatives are shown in Table 1.

Table 1. Alternative allocations for WWTFs provided for public comment

	Pre-2017 TMDL permit	WLA-A. Uniform effluent concentration of 0.65 mg/l*	WLA-B. Population (0.5 lbs per person)*	WLA-C. Reduction of Newport WLA to 1631 lbs *	WLA-D. 33% load reduction for all facilities*
BARTON (mg/l / lbs.)	1.0 / 811	0.65 / 527	0.46 / 339	1.0 / 811	0.67 / 542
BRIGHTON (mg/l / lbs.)	5.0** / 2293	0.65 / 298	0.90 / 411	5.0 / 2293	3.34 / 1532
NEWPORT (mg/l / lbs.)	0.8 / 3179	0.65 / 2584	0.65 / 2593	0.41 / 1631	0.53 / 2125
ORLEANS (mg/l / lbs.)	1.0 / 582	0.65 / 377	0.71 / 409	1.0 / 582	0.67 / 388
Total load (lbs.)	6865	3786	3782	5317	4587
Percent of TMDL load (89,993 lbs.)	6.0%	4.0%	3.9%	4.3%	4.0%
Reduction from pre-TMDL permit load	0%	45%	45%	23%	33%
Non WWTF load reduction required	33.9%	31.2%	31.2%	31.2%	31.2%
Potential required upgrades in first permit cycle		Brighton	Barton, Brighton	Newport	None

*Concentrations for WLA alternatives were derived by dividing the proposed annual load by the current design flow. These are provided for context, and are not necessarily reflective of final permitted monthly average concentration limits.

**Brighton does not have a permit concentration limit for phosphorus so 5 mg/l was used to calculate annual loading.

The Division noticed for public comment the draft WLA options in conjunction with the draft TMDL and the draft tactical basin plan for the Lake Memphremagog watershed on May 16, 2017. The public comment period, which ended on June 16, 2017, included several public meetings which addressed all three draft documents.

The meetings were:

- May 22nd, 2017, 6:30 p.m., Emory Hebard State Office Building, Newport.
- May 30th, 2017, 7:00 p.m., Brighton Municipal Building, Brighton.
- May 31st, 2017, 6:30 p.m., Common House, Sterling College, Craftsbury.

Additional public comment was received at a Quebec/Vermont Steering Committee on Lake Memphremagog meeting held on May 16th and at the NVDA executive board meeting held on May 25th at the NVDA office in St. Johnsbury. No written comments were received regarding the WLA alternatives. The Lake Memphremagog phosphorus TMDL was subsequently approved by EPA Region 1 on September 28, 2017.

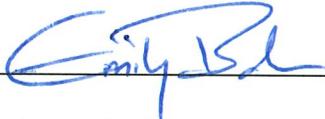
Final wasteload allocations

Based on the lack of comment regarding the WLA alternatives, and approval of the TMDL by EPA, the Division submits the preferred allocation as the final allocation. This allocation is provided in Table 2.

Table 2. Final adopted wasteload allocations.

Municipality	Permit Flow (MGD)	TMDL WLA (TP lbs./yr)
Barton	0.265	542
Brighton	0.150	1,532
Newport	1.300	2,125
Orleans	0.190	388
Total Load	1.905	4,587

These final wasteload allocations will be implemented through the NPDES permit process as facility permits are reissued.



10/24/17

Emily Boedecker

Date

Commissioner,
Vermont Department of Environmental Conservation

