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September 14, 2022

MEMO

To: Christy Witters, Chris Gianfagna, and Emily Schelley
Vermont DEC Stormwater Program

From: Amy Macrellis, Stone Environmental
Jenn Callahan, Vermont Agency of Transportation

Stone Project No. 18-008-E | 20211273
Subject: Lake Champlain Basin Phosphorus Control Plan, Vermont Agency of Transportation – Progress Report

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On behalf of VTrans and in accordance with *NPDES General Permit 3-9007 for Stormwater Discharges from the State Transportation Separate Storm Sewer System (TS4)* Section 9.2.D, Stone is pleased to submit this Progress Report summarizing actions taken to implement all Phosphorus Control Plan (PCP) components. This submittal includes final summaries of impervious and pervious acres managed, and BMPs implemented, through December 31, 2021 and provides updates to estimated extent of completion for remaining items and schedule as of June 30, 2022.

1. Extent of BMP implementation

Documentation of historic and current operations, and projection of current operations through the term of the first VTrans Phosphorus Control Implementation Plan (PCIP) (submitted October 1, 2020) and in the September 2021 progress report was updated in the implementation model to account for capital projects and maintenance activities completed through December 31, 2021. Figure 1 below compares progress documented through December 31, 2020 to final documentation of road drainage improvements, capital projects, maintenance-level improvements, non-structural control application, and other creditable activity for January 1-December 31, 2021. In 2020, P load reductions of 61.4 kg/yr were achieved. In 2021, a slightly higher total P load reduction of 64.1 kg/yr was achieved for structural practices compared to 2020, for a cumulative P load reduction of 273.6 kg/yr. This cumulative P load reduction for structural practices represents 68% of the Phase 1 target (401.5 kg/yr) and 17% of the Phase 4 and target P load reduction of 1,605 kg/yr.

Table 1, drawn from the implementation model, summarizes P load reductions documented for 2021 projects and improvements by Lake segment and structural BMP type. Completed road drainage repairs through the end of 2021, as in 2020, were sometimes slightly below the 2015-2019 average estimated in the model at PCIP submittal. Location accuracy of maintenance-level localized erosion repairs was greatly improved in 2020, and remained improved in 2021. Implementation of non-structural controls in 2021 remained lower than in 2015-2019 due to COVID-related staffing challenges and limited regional availability of vactor trucks (e Section 1.4).

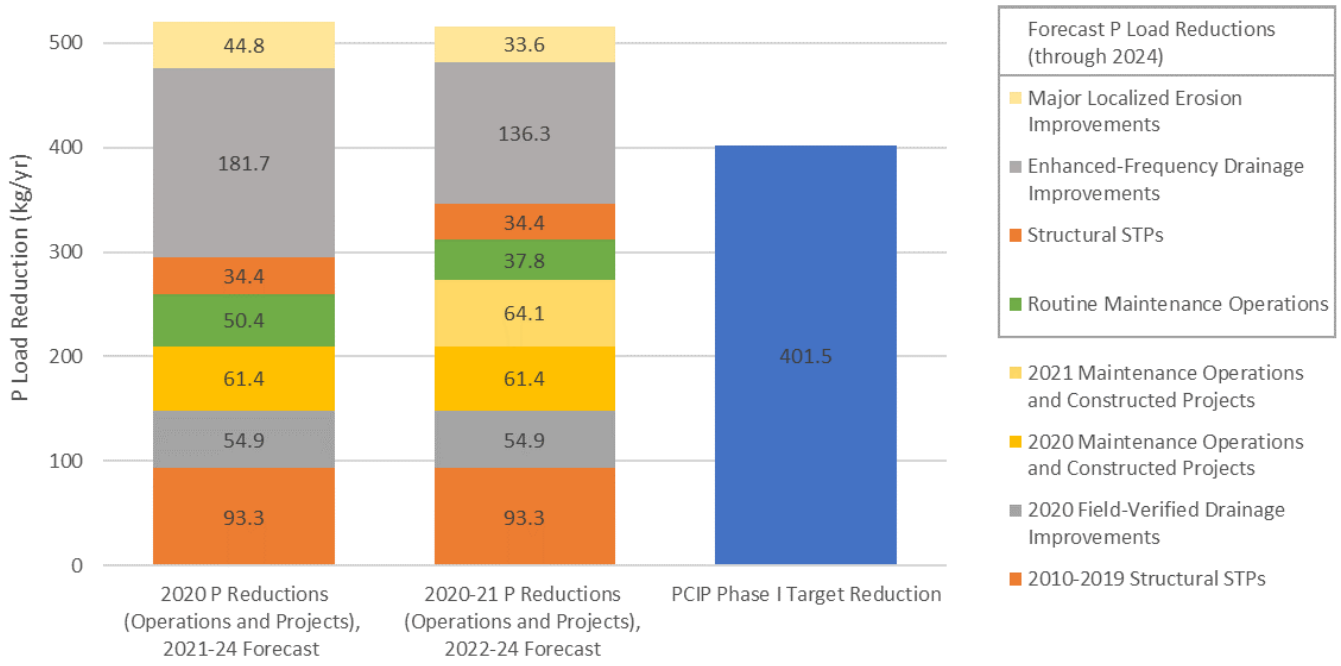

Figure 1. Summary of Phase 1 progress toward target P load reduction for structural BMPs only, comparing progress documented and projected in 2020 to that achieved through 2021.

Table 1. Final P load reductions for structural BMPs implemented in 2021 (kg/yr)

	P load reduction (kg/yr)			
Lake Segment	Completed Road Drainage Repair	Road Drainage Repair, Major Project	Completed Localized Erosion Repair	Localized Erosion Repair, Major Project
1-South Lake B	0.59	0.24	0.40	0.00
2-South Lake A	0.38	0.00	0.00	0.00
3-Port Henry	0.21	0.00	0.00	0.00
4-Otter Creek	14.29	0.42	0.23	1.43
5-Main Lake	9.65	0.79	11.63	0.00
6-Shelburne Bay	0.41	0.00	0.00	0.00
8-Malletts Bay	5.40	0.47	0.30	0.00
9-Northeast Arm	0.17	0.00	0.00	0.00
10-St. Albans Bay	0.50	0.00	0.00	0.00
11-Missisquoi Bay	3.92	5.46	7.20	0.00
12-Grand Isle	0.00	0.00	0.00	0.00
TOTAL	35.52	7.38	19.76	1.43

Table 3, at the end of this memo, provides an update to the implementation model as submitted with the PCIP and includes VTrans' present understanding of improvements credited through December 31, 2021. The interactive charts of impervious acres managed and P load reductions achieved[1] over the term of the PCP that accompanied the October 1, 2020 PCIP were updated to include improvements through 2021.

Below, we briefly summarize activities undertaken and progress documented since December 31, 2021, organized by the suite of necessary BMPs set forth in the PCIP.

1.1 Tracking and Accounting

VTrans continued development of a tracking and accounting system, working to integrate with and build from its Vermont Asset Management Information System (VAMIS). The originally developed PCP road segment dataset was refined to standardize road segment lengths while preserving key attributes, such as hydrologic connectivity and road slope, and to reference the VTrans Linear Reference System (LRS) for locating road segments. The refined road segments dataset is available upon request. Refinements to the TS4 ditch inventory that were field-tested in the summer of 2021, including dividing swales to correspond to road segments and to Small Culverts Inventory (SCI) cross culverts, were completed for swale assets in the Lake Champlain Basin (LCB) in May 2022. VTrans anticipates that development of an automated system for tracking and accounting for structural corrections to road drainage deficiencies will commence in the summer of 2022.

1.2 Structural Correction of Road Drainage Deficiencies

The *VTrans Phosphorus Control Highway Drainage Management Standards (August 3, 2021)* submitted in the Sept. 30, 2021 progress report was revised to integrate the VTrans Short Structures asset inventory into the existing drainage standards and phosphorus crediting framework. Larger culverts, including many concrete box culverts now being installed by VTrans to replace undersized structures, are tracked in the Short Structures asset inventory instead of in the SCI, which includes only culverts that are six feet in diameter or smaller.

These standards, and the menu of standard BMPs and maintenance activities that may be undertaken to bring road segments and related assets 'up to standards', are living documents and will be updated periodically as conditions warrant.

Correction of road drainage deficiencies, as documented in MATS and in programmed capital projects during calendar 2021 were summarized and credited in the implementation model (Table 1, Table 3, and Figure 1).

[1] For interactive charts of impervious acres and P load reductions potentially achieved by management strategy, visit https://bit.ly/3kUTCJz

1.3 Structural Correction of Road Erosion Issues

Specific crediting mechanisms for stabilization and treatment of areas of localized erosion caused by roadway runoff remain in development. VTrans, with DEC, participated in the research project *Quantifying Nutrient Pollution Reductions Achieved by Erosion Remediation Projects on Vermont's Roads*, which was completed in June 2021. While the study was valuable, the findings did not include an actionable phosphorus crediting strategy. VTrans participated in further dialogue with ANR in January-March 2022 regarding P crediting for outlet and gully restoration BMPs as represented in ANR's *Draft Standard Operating Procedures for Tracking & Accounting of Developed Lands Regulatory Projects & Non-Regulatory Clean Water Projects*. VTrans remains ready to assist as warranted.

Correction of minor areas of localized erosion as documented in MATS and in programmed capital projects during calendar 2021 were summarized and credited in the implementation model (Table 1, Table 3, and Figure 1).

1.4 Non-Structural Controls

Lane miles swept and drop inlets (DIs) cleaned in 2021 were summarized and credited in the implementation model (Table 3). Table 2 below summarizes paved roads acres swept and P load reductions documented for 2021 activities. Limited Vactor contracts were executed in 2021, and lane miles swept remained reduced due to staffing limitations.

Table 2. Summary of annual acres managed and P load reductions for non-structural BMPs implemented in 2021 (kg/yr)

Lake Segment	Paved Roads Acres Swept	Annual P Load Reduction (kg/yr)
1-South Lake B	25.6	0.14
2-South Lake A	11.1	0.045
3-Port Henry	0.0	0.00
4-Otter Creek	222.3	0.99
5-Main Lake	258.8	1.18
6-Shelburne Bay	75.8	0.25
8-Malletts Bay	377.5	1.62
9-Northeast Arm	14.2	0.061
10-St. Albans Bay	30.4	0.23
11-Missisquoi Bay	237.5	1.09
12-Grand Isle	7.7	0.034
TOTAL	1260.8	5.64

1.5 Structural Stormwater Treatment Practices

Information about existing and planned structural stormwater treatment practices (STPs) throughout the TS4 is updated in the TS4's BMP Tracking Table and in the implementation model as practices move through design or are constructed. Updates were made to the BMP Tracking Table in the spring of 2022, following its submittal as part of the 2021 TS4 Annual Report, to account for structural STPs following the 2021 construction season and adjustments to construction schedules for programmed projects. The BMP Tracking Table adjustments are also summarized and credited in the implementation model (Table 1, Table 3, and Figure 1).

1.6 Natural Resource Restoration Projects

Natural resource restoration projects, and particularly floodplain restoration projects, may be credited as stormwater treatment practices in the context of the VTrans PCP if the floodplain area to be restored is also connected to a TS4 roadway or other VTrans-controlled contributing drainage. Since the PICP submittal, VTrans continues to complete preliminary evaluations of specific floodplain restoration projects for P reduction credit. The potential for floodplain restoration, bank stabilization, and other relevant practices were evaluated in the Potash Brook watershed near the I-89/I-189 interchange. In the spring of 2022, an outlet and gully stabilization practice was found to have potential for cost-effective P reductions, and discussions are underway to consider adding this measure to a future design project.

More exhaustive evaluation of how to execute and credit floodplain reconnection will be possible through application of results from Vermont's Functioning Floodplains Initiative (FFI). Development of a web-based application is underway, with public release now anticipated in the fall of 2022. The initiative is developing and applying methodologies for evaluating river reach and watershed-scale restoration of stream, riparian, wetland, and floodplain function. Phosphorus crediting strategies were in development between the FFI technical team and Vermont ANR in the winter and spring of 2022.

2. Estimate of extent of completion for remaining items

The draft implementation schedule presented in the October 1, 2020 PCIP remains generally accurate. Both the schedule and the implementation model are planning-level documents only and will be subject to continued adjustment as the implementation plan is executed. The base assumptions used to populate the model remain unchanged from the Generalized PCP submittal. Updates to those assumptions, particularly assumptions related to implementation costs, will continue as plan execution proceeds.

The implementation model (Table 3) serves as a revised draft implementation schedule that includes estimates of the area (acreage) to be treated and the extent and type of treatment strategies that will be applied to meet the P load reduction required from the first PCIP and ultimately from the entire VTrans PCP.

Figure 2 provides a visual summary of the implementation model's tracking of P load reductions achieved through calendar 2021 (Table 3), and P load reductions planned and projected through achievement of TMDL target P load reductions before June 17, 2036. Though much work remains, at the end of 2021 VTrans achieved 282.2 kg/yr (70%) of the targeted Phase 1 reduction. The P load reduction achieved through 2021 constitutes 16% of VTrans' overall target P load reduction (Figure 2 and Table 3). The implementation model presently indicates that VTrans should achieve its Phase 1, Phase 2, and Phase 3 target P load reductions roughly a year ahead of the end of those phases and be in compliance with the TMDL target P load reduction in 2035.

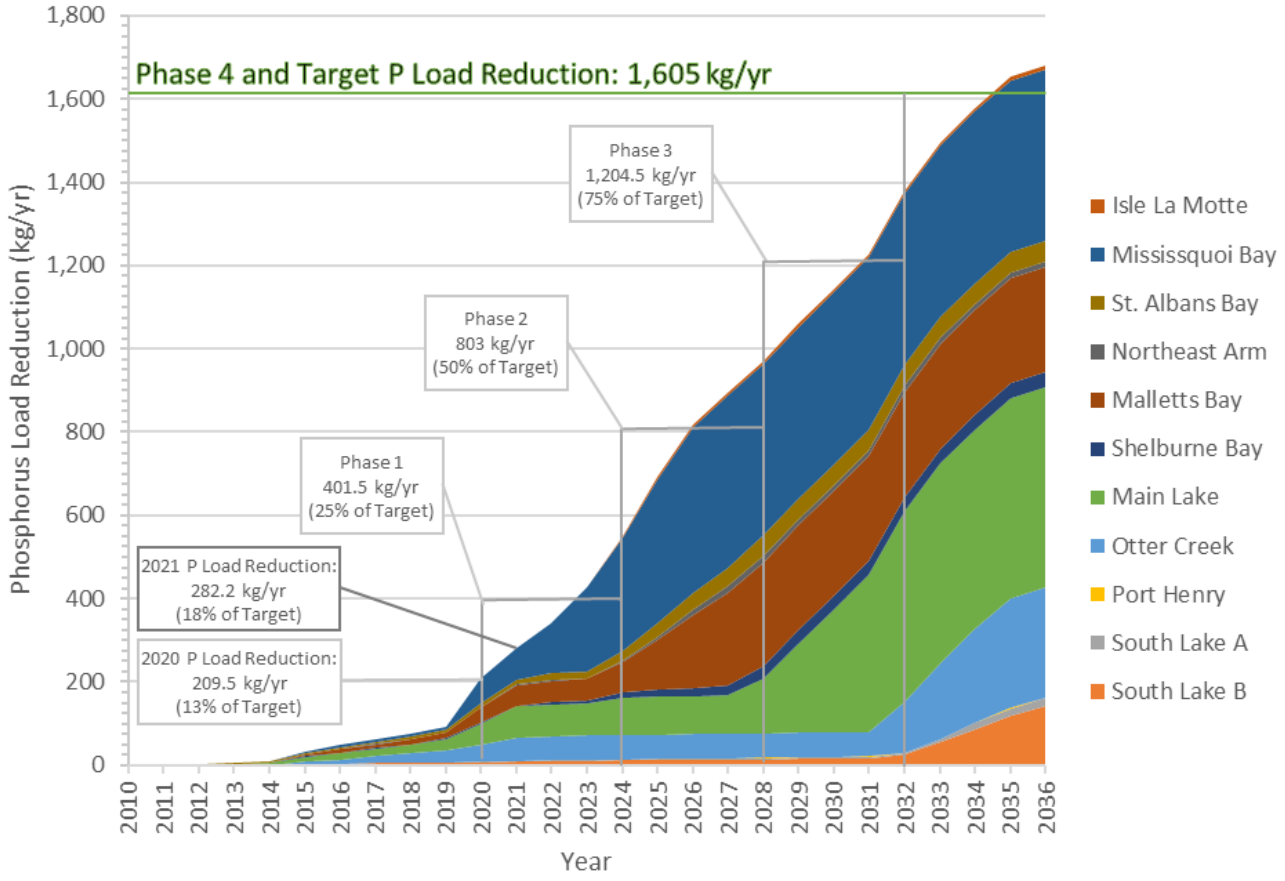

Figure 2. Cumulative annual P load reduction (kg/yr) achieved and projected by Lake segment as of December 31, 2021

3. Assessment of ability to meet remaining schedule items

VTrans is presently on or slightly ahead of schedule and is capable of meeting remaining schedule items. As implementation of the PCPs proceeds, if any changes in ability to meet schedule items arise, VTrans report on schedule adjustments as warranted.

4. Written designer statements

Subpart 9.2.D.4 of the TS4 General Permit requires submittal of *a written statement signed by a designer acceptable to the Secretary that any structural BMP build or implemented within the preceding 6 month period was constructed in compliance with the approved plans.* No structural BMPs requiring written designer statements were completed within the preceding 6-month period.

Table 3. Implementation model summary as of December 31, 2021

Lake Segment: **Lake Champlain Basin**
Target Reduction: **20.96%**

Land Cover Type	PCP Area (acres)	P Base Load (kg/yr)	P Target Reduction (kg/yr)
Developed Impervious	416.78	466.78	97.85
Paved Roads	5,983.87	4,836.67	1,014.55
Unpaved Roads	12.74	28.85	5.96
Developed Pervious	9,483.84	2,330.74	487.56
Total	15,897.23	7,663.04	1,605.91

Progress to Target P Reduction Key:

Less than 25%
26%-50%
51%-75%
76%-99%
100%+

													Gen PCP, 1st Imp Plan				2nd Imp Plan			3rd Imp Plan				4th Imp Plan				Complete
Metric	**Lake Segment**	**Total Managed**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	South Lake B	**224.6**	0.0	0.0	0.0	0.0	0.0	0.2	2.2	1.9	2.3	0.6	7.0	2.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	20.1	46.9	46.9	46.9	36.3
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	South Lake A	**20.6**	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	1.1	0.0	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.4	8.6	3.6	0.3
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Port Henry	**2.9**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Otter Creek	**391.9**	0.0	2.2	5.1	0.0	0.0	6.9	4.6	7.5	20.7	3.0	31.5	5.5	9.0	0.9	0.0	8.7	0.0	4.5	0.0	0.0	0.0	0.0	87.3	74.3	58.1	58.8	3.5
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Main Lake	**680.5**	3.0	0.7	0.0	5.0	6.2	2.9	6.4	11.4	4.5	13.2	40.1	76.0	1.8	4.5	13.8	4.6	0.0	0.0	52.4	109.5	106.2	104.9	110.6	2.7	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Shelburne Bay	**98.9**	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.6	1.2	9.2	6.6	11.8	11.8	5.1	13.4	4.6	6.0	9.3	9.3	9.3	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Malletts Bay	**382.9**	2.0	0.0	0.4	0.0	6.5	4.6	7.4	5.1	10.5	3.5	37.3	17.8	0.0	2.0	33.6	64.1	77.7	62.4	44.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Northeast Arm	**21.2**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.2	0.3	0.8	0.0	0.0	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	St. Albans Bay	**97.9**	1.7	3.8	0.0	4.0	0.0	1.2	2.4	0.0	0.5	0.7	9.6	1.0	24.9	0.0	11.9	11.9	12.9	7.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Mississquoi Bay	**677.6**	0.0	3.8	0.0	0.0	0.0	2.6	3.1	3.3	1.6	1.2	138.4	36.4	76.1	129.7	105.4	80.5	72.3	23.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	Isle La Motte	**8.4**	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	3.0	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPERVIOUS ACRES MANAGED (STRUCTURAL)	**PCP Area**	**2,607.3**	**6.6**	**10.4**	**5.4**	**9.0**	**12.7**	**18.9**	**26.7**	**29.4**	**40.2**	**23.7**	**267.5**	**141.4**	**123.2**	**145.0**	**180.9**	**191.3**	**177.7**	**117.9**	**106.9**	**121.0**	**116.9**	**115.6**	**228.6**	**127.2**	**113.6**	**109.3**	**40.1**
TOTAL ACRES MANAGED (STRUCTURAL)	South Lake B	**400.9**	0.0	0.0	0.0	0.0	0.0	0.2	2.2	1.9	2.3	0.6	7.0	2.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	20.1	96.3	96.3	96.3	64.5
TOTAL ACRES MANAGED (STRUCTURAL)	South Lake A	**24.7**	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	1.1	0.0	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.5	10.7	3.6	0.3
TOTAL ACRES MANAGED (STRUCTURAL)	Port Henry	**2.9**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Otter Creek	**823.2**	0.0	5.3	8.5	0.0	0.0	6.9	4.6	7.5	107.0	3.2	31.5	29.3	28.2	0.9	0.0	207.4	0.0	9.5	0.0	0.0	0.0	0.0	132.6	107.5	71.1	58.8	3.5
TOTAL ACRES MANAGED (STRUCTURAL)	Main Lake	**998.3**	2.9	1.1	0.0	59.0	10.6	3.1	6.4	11.4	5.0	58.8	54.5	59.5	2.2	7.0	39.2	6.1	0.0	0.0	75.4	155.4	152.1	146.5	130.6	11.3	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Shelburne Bay	**230.8**	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.6	5.1	16.1	16.4	21.5	21.5	5.1	20.3	7.8	13.1	34.2	34.2	34.2	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Malletts Bay	**451.0**	2.5	0.0	1.1	0.0	11.1	5.6	7.4	9.0	23.6	3.5	37.3	28.7	0.0	5.3	33.6	64.1	77.7	67.1	44.0	29.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Northeast Arm	**21.3**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.4	0.3	0.8	0.0	0.0	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	St. Albans Bay	**476.5**	1.7	61.2	0.0	13.0	0.0	1.2	2.4	0.0	0.5	0.7	9.6	1.0	327.6	0.0	11.9	11.9	15.5	12.6	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Mississquoi Bay	**1,001.7**	0.0	61.3	0.0	0.0	0.0	2.6	3.1	3.3	1.6	1.2	138.4	36.4	76.1	179.6	155.3	144.6	136.4	61.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	Isle La Motte	**8.4**	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	3.0	2.5	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL ACRES MANAGED (STRUCTURAL)	**PCP Area**	**4,439.8**	**7.1**	**128.9**	**9.6**	**72.0**	**21.7**	**20.1**	**26.7**	**33.3**	**140.1**	**69.5**	**282.1**	**163.4**	**452.4**	**210.6**	**265.9**	**465.4**	**244.5**	**178.6**	**134.3**	**199.3**	**187.8**	**182.1**	**318.8**	**220.5**	**178.0**	**158.7**	**68.3**
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	South Lake B	**123.9**	0.0	0.0	0.0	0.0	0.0	147.4	99.4	295.8	155.3	95.5	48.3	25.6	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9	123.9
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	South Lake A	**34.2**	0.0	0.0	0.0	0.0	0.0	57.5	18.7	59.7	61.9	22.2	8.2	11.1	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Port Henry	**10.6**	0.0	0.0	0.0	0.0	0.0	15.0	0.3	13.8	15.4	15.0	14.5	0.0	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Otter Creek	**679.6**	0.0	0.0	0.0	0.0	0.0	839.2	654.9	880.0	608.1	961.9	590.3	222.3	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6	679.6
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Main Lake	**411.9**	0.0	0.0	0.0	0.0	0.0	434.7	715.3	442.4	508.1	471.8	52.1	258.8	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9	411.9
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Shelburne Bay	**86.6**	0.0	0.0	0.0	0.0	0.0	81.0	33.9	101.4	90.9	186.7	36.6	75.8	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Malletts Bay	**385.5**	0.0	0.0	0.0	0.0	0.0	324.9	463.9	485.2	526.4	409.5	111.0	377.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5	385.5
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Northeast Arm	**67.3**	0.0	0.0	0.0	0.0	0.0	116.3	140.9	61.6	12.4	125.7	0.0	14.2	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	St. Albans Bay	**52.7**	0.0	0.0	0.0	0.0	0.0	24.2	53.2	76.6	112.4	56.3	15.8	30.4	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7	52.7
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Mississquoi Bay	**205.6**	0.0	0.0	0.0	0.0	0.0	20.3	181.4	427.7	341.9	132.5	97.2	237.5	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6	205.6
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	Isle La Motte	**21.0**	0.0	0.0	0.0	0.0	0.0	31.4	38.1	19.1	15.2	35.4	0.0	7.7	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
ANNUAL ACRES MANAGED (NON-STRUCTURAL)	**PCP Area**	**2,078.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2091.8**	**2400.0**	**2863.3**	**2448.0**	**2512.5**	**974.1**	**1260.8**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**	**2078.9**
CUMULATIVE TOTAL P REDUCTION	South Lake B	143.1	0.0	0.0	0.0	0.0	0.0	0.7	2.0	4.4	5.0	5.2	7.3	8.5	9.3	10.1	10.9	11.7	12.5	13.3	14.1	14.9	15.7	16.5	24.3	55.7	87.0	118.4	143.1
CUMULATIVE TOTAL P REDUCTION	South Lake A	17.2	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.7	0.8	1.3	1.2	1.6	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	6.3	13.7	17.0	17.2
CUMULATIVE TOTAL P REDUCTION	Port Henry	1.8	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.4	1.8	1.8	1.8	1.8
CUMULATIVE TOTAL P REDUCTION	Otter Creek	265.9	0.0	0.0	0.4	0.4	0.4	9.6	10.3	16.6	22.6	28.3	39.7	55.0	57.6	58.4	58.4	58.8	58.8	58.9	58.9	58.9	58.9	58.9	121.6	181.0	223.7	263.9	265.9
CUMULATIVE TOTAL P REDUCTION	Main Lake	479.5	1.3	1.4	1.4	1.9	4.4	9.8	16.4	18.4	21.1	28.6	51.3	74.5	77.1	78.2	90.4	92.0	92.0	92.0	131.6	213.4	294.5	375.5	456.8	479.5	479.5	479.5	479.5
CUMULATIVE TOTAL P REDUCTION	Shelburne Bay	35.8	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.7	0.8	1.7	0.8	1.3	3.9	5.7	10.8	15.9	19.3	25.3	29.0	31.9	33.2	34.5	35.8	35.8	35.8	35.8	35.8
CUMULATIVE TOTAL P REDUCTION	Malletts Bay	252.0	0.4	0.4	0.4	0.4	0.5	4.5	8.8	9.5	12.4	14.1	37.7	51.3	50.9	51.7	74.7	119.1	175.8	221.9	250.5	252.0	252.0	252.0	252.0	252.0	252.0	252.0	252.0
CUMULATIVE TOTAL P REDUCTION	Northeast Arm	14.1	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.3	0.0	0.9	1.2	1.4	2.2	2.2	2.2	6.9	11.7	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
CUMULATIVE TOTAL P REDUCTION	St. Albans Bay	50.0	0.0	0.5	0.5	2.3	2.3	2.9	4.1	4.2	5.2	4.9	10.4	11.1	16.5	16.5	24.6	32.7	39.6	45.9	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
CUMULATIVE TOTAL P REDUCTION	Mississquoi Bay	412.5	0.0	0.5	0.5	0.5	0.5	2.0	5.1	7.3	8.2	8.1	59.3	76.6	120.0	200.4	272.7	346.8	398.3	412.5	412.5	412.5	412.5	412.5	412.5	412.5	412.5	412.5	412.5
CUMULATIVE TOTAL P REDUCTION	Isle La Motte	7.7	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.5	0.3	0.2	0.3	0.4	0.4	3.1	5.4	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
CUMULATIVE TOTAL P LOAD REDUCTION	**PCP Area**	1,679.5	**1.6**	**2.8**	**3.3**	**5.5**	**8.1**	**31.2**	**48.6**	**62.2**	**76.8**	**93.5**	**209.6**	**282.2**	**340.4**	**426.4**	**550.9**	**692.6**	**819.0**	895.1	972.1	1059.3	1142.6	1225.9	1380.2	1496.3	1577.8	1652.6	1679.5