

SHADOW-DANIELS WATERSHED



SHADOW

LAKE WATERSHED ACTION PLAN FINAL REPORT

VIRTUAL PUBLIC MEETING TUES, MARCH 12, 4:30-6PM

Join us for a public presentation of the Shadow LWAP FINAL REPORT! Hear a summary of our findings & discuss NEXT STEPS for implementing restoration projects in the Shadow Watershed.

Teams link for VIRTUAL ONLY meeting:
<http://tinyurl.com/Shadow-LWAP-Final-Report>

RSVP requested -
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802.334.6090 x7008



Orleans County
Natural Resources
Conservation District

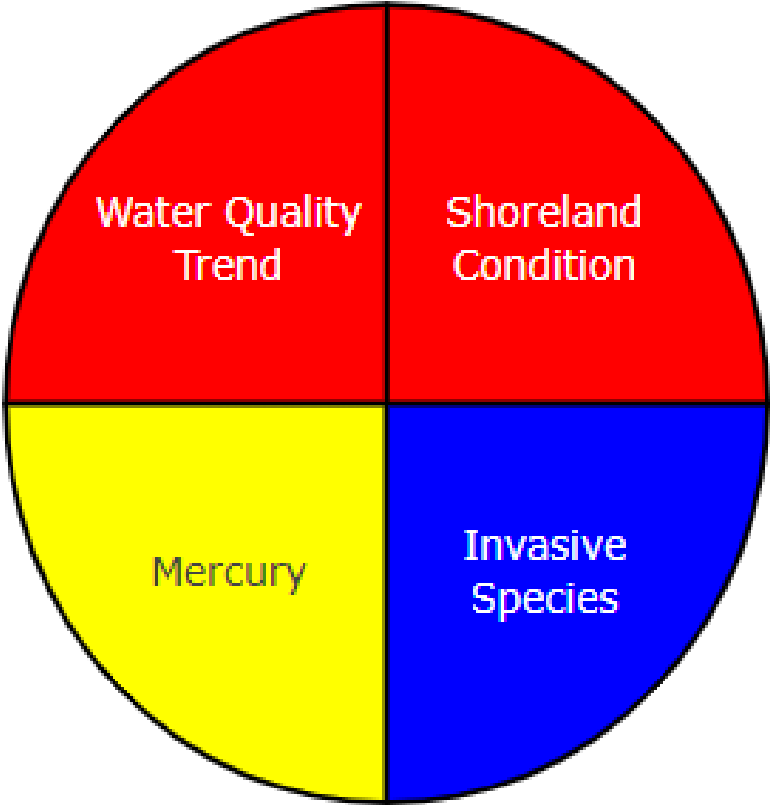
Shadow Lake Watershed Action Plan Final Report Presentation Meeting will be focused on presenting the final report for the Shadow Lake Watershed Action plan (LWAP) with a **high-level overview/synthesis of all the prior completed desktop and field assessments, recommendations and outcomes.**

Shadow lake is 217 acres, and the lake area is integral to the Town of Glover’s quality of life.

Based on over 30 years of lay monitoring data the lake is experiencing an **increase** in both spring and summer total phosphorus concentrations.

- The VT DEC lists Shadow lake as **altered**:
- 1. “Potential water quality impacts due to seasonal water level fluctuations”
 - 2. as well as algae and sediment impacts.
 - 3. Land erosion and nutrient loading are stressors.

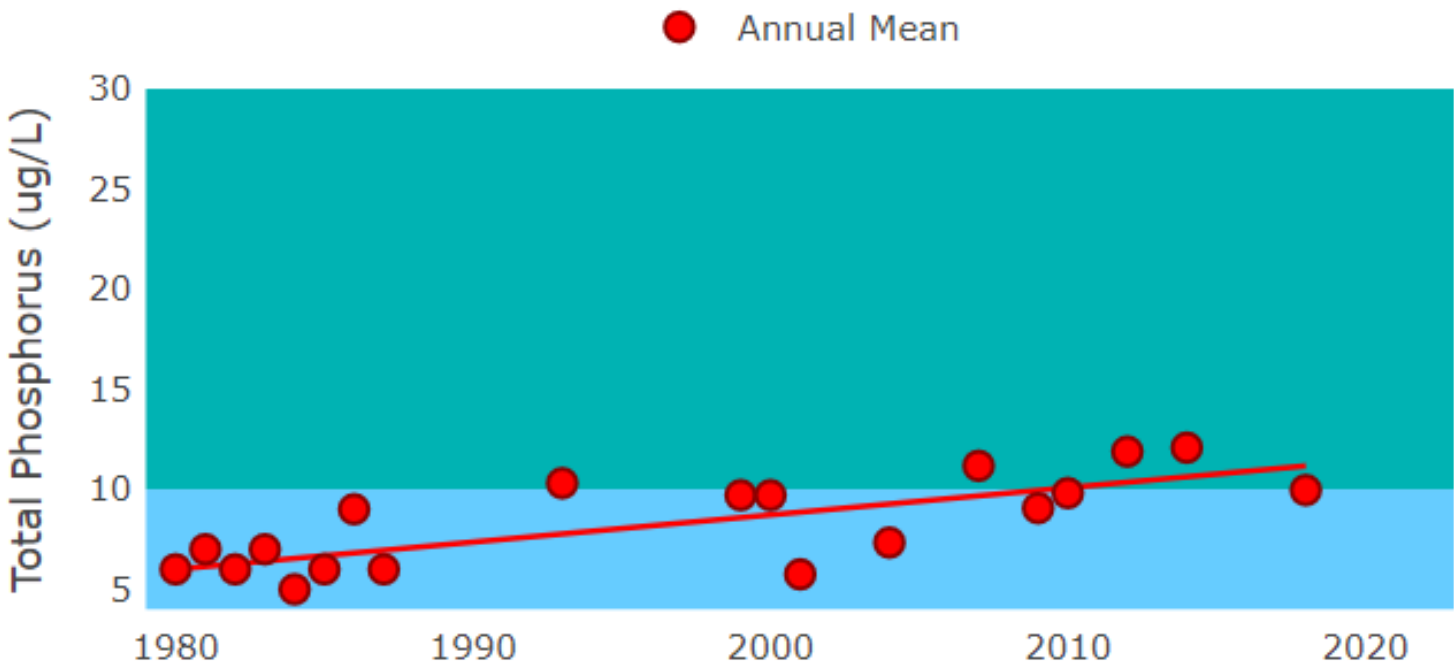
The VTDEC Basin 17 plan lists Shadow Lake as a **priority** sub watershed.



Watershed:	Moderately Disturbed
WQ Standards:	Impaired

Spring Phosphorus

Trend: Highly Significantly Increasing (p-value = 0.0014)



WQ Standards Details

Altered – Flow alteration

Color Scoring System

- Good Conditions
- Fair Conditions
- Poor Conditions
- Insufficient Data

AGENDA

- Welcome & Introductions - *Shadow Lake Association – Jen Andrews.*
- LWAP process, outcomes, and plan report goals -*Orleans County NRC*
- Review process to date, outcomes and recommendations -*Watershed Consulting*
- Q & As in between - *OCNRC*
- Survey and Next Steps - *OCNRC*
- Closing – *Shadow Lake Association*



Funded by:



WHAT IS A LWAP?

Tool - *Assessment and planning tool* that identifies the greatest threats (stressors & conditions)* to the lake ecosystem.

**including stormwater runoff, sedimentation & nutrients, erosion, invasive species, habitat loss*

Process - 2-year process of field assessments of shorelines, roadways & streams, *community input and prioritization*

Report – LWAP Final Report is a guide for community planning and project development.



PROCESS

July 2022 – Desktop review of the watershed conditions and resources.

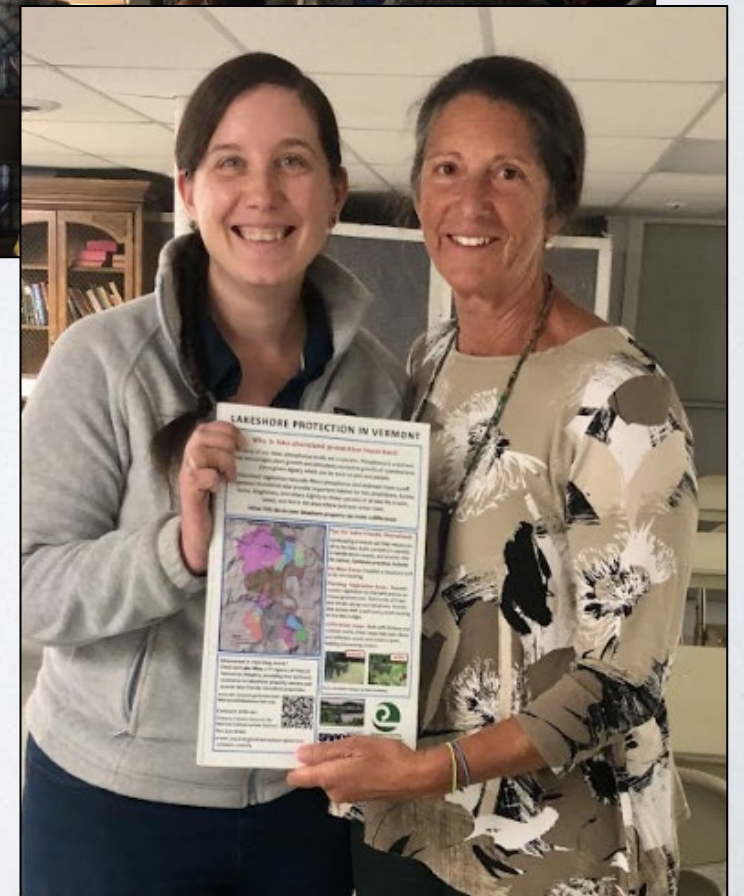
July 2022 - Kick-off Meeting

Fall 2022 – Fall 2023

Field Assessments

August 2023 – Public Meeting Present priority areas & recommendations; Gather community input

January 2024 - Plan completed & presented to stakeholders.



Outcomes:

6 internal stakeholder meetings

- 1 Town of Glover
- 5 Shadow Lake Association
- 1 OCNRCD
- 4 VTDEC staff.

Community Engagement

- 3 public meetings
- 2 Workshops
- X Contractor Engagement for Certification
- 3 press releases
- 3 Lake Restoration Signs at Lake Kiosk.



WASTEWATER WORKSHOP
ONSITE SYSTEMS FOR LAKE-FRIENDLY LIVING
SAT, JULY 29
10AM - 12:30PM
GLOVER TOWN HALL



Outcomes:

- Extensive data review of previous studies and planning efforts
- **51** projects identified
 - 39 town road projects were identified.
 - 5 private road projects were identified.
 - 19 Lakeshore properties prioritized
 - 16 stream projects were identified.
- A total of **25** high priority project sites were identified.
- **5 Lakewise** Assessments
- **4 project** grants with lakeshore landowners.
- **1 Final report** for guiding individual and community accomplishment for water quality improvements.



Lake Watershed Action Plan Phase 1 at Shadow Lake in Glover, Vermont Final Report

January 2024

SUBMITTED TO:

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Orleans County Natural Resources Conservation District
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SUBMITTED BY:

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Next Steps

1. Conservation District can work with the town and interested landowners on plan adoption and water quality projects.

A. Assessments and Project Development

- Continue to conduct **Lakewise and StreamWise Assessments** with interested landowners.

Landowners interested Lakewise and Streamwise assessments

- Reach out to VTDEC, Alison Marchione, for an assessment **OR** the Shadow Lake Association

A. Secure funding for 100% design and implementation on priority projects.

B. Work with interested landowners and partners to complete 100% designs on priority projects.

FUNDING OPPORTUNITIES

PROJECT PHASE

Project
Development

Design

Implementation

Operations &
Maintenance

Clean Water Service Provider Formula Grants

NRCC/WUV Design/Implementation Block Grants

WUV Woody Buffer Block Grants

NRCC/WUV
Project
Development
Block Grants

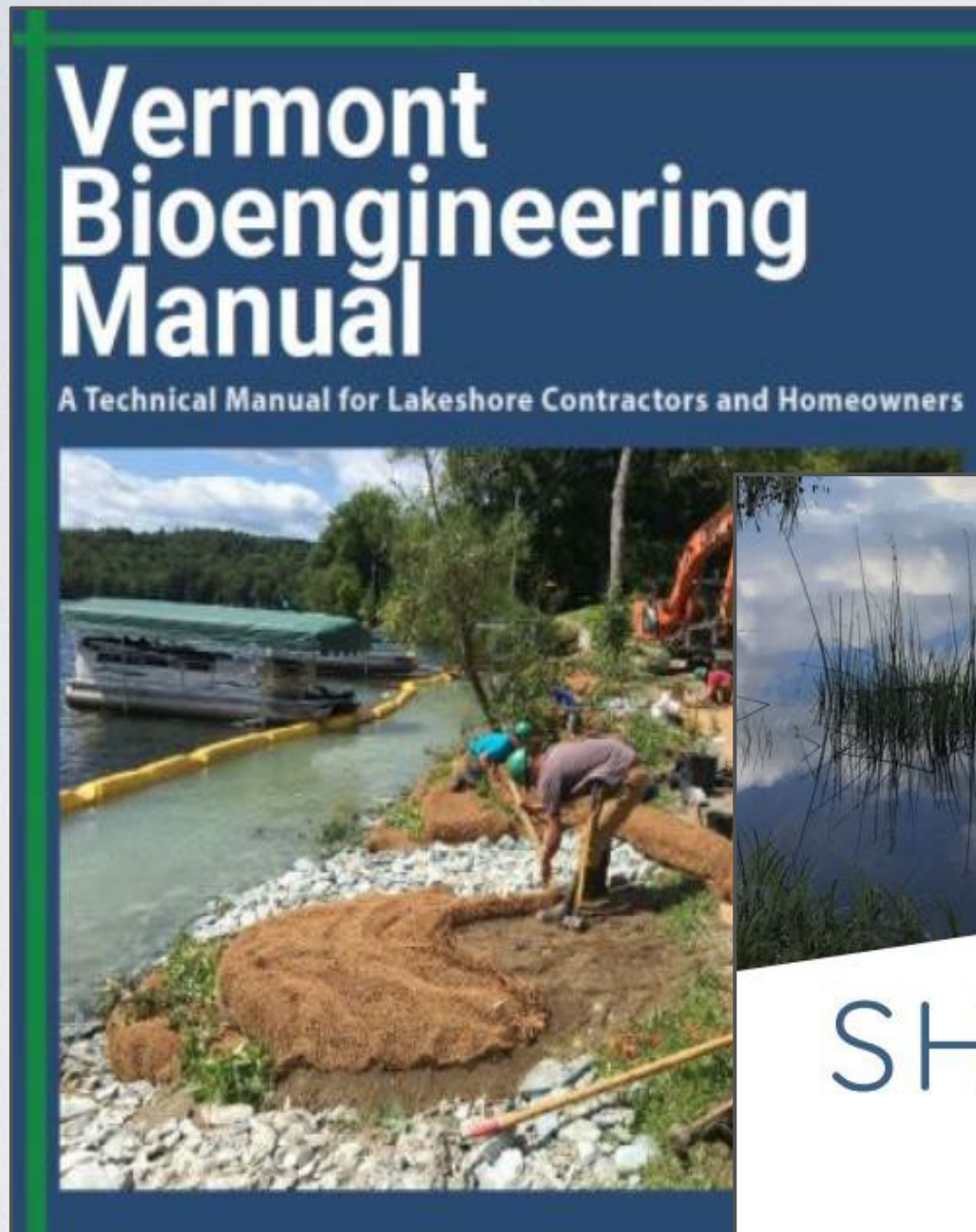
DEC Watershed Enhancement Grants

VT NRCD Trees for Streams Program

Conservation Reserve Enhancement Program



Resources



VERMONT DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
**WATERSHED
MANAGEMENT DIVISION**
LAKES & PONDS PROGRAM

November 4th, 2022 8:30am-3:00pm
Natural Shoreland Erosion Control Certification

Welcome

8:30 Log on to Microsoft Teams
Welcome and Overview of Day

Presentations

8:40 Lake Ecology: Why Natural Shoreland Erosion Control Matters!
Kellie Merrell, Aquatic Ecologist, VTDEC
Overview of Water Quality and Habitat

Regulations

VTDEC
Clean Water Act, Encroachment, Wetlands, Stormwater,
and other regulations

Standards

VTDEC
Erosion Control Friendly Development

Native Plants

VTDEC, Nectar Landscape Design, UVM Plant & Soil Science

Case Studies

VTDEC, Woods Stewardship Center
Shoreland Stabilization Projects

Tools for BMPs and Calculating Benefits

VTDEC

Permeable Pavers and Operation and Maintenance

Prescott, Inc.), Biodegradable Products
(Traders), Permeable Pavers

SHARING THE EDGE



**A Guide for Lakeshore
Property Owners in Vermont**


Shadow Lake Association

<https://shadowlakeassociation.org/#>

ENLARGE THE MEMBERSHIP

- Town of Select Board
- Planning Committee
- YOU

Welcome to Shadow Lake Association's New Website

 **SHADOW LAKE ASSOCIATION**

About ▾ History ▾ Resources ▾ Lake Quality ▾ Communication ▾ Membership ▾ Donate

Shadow Lake is located in Glover, Vermont, encompassing 217 acres surrounded by deciduous and coniferous forests. The lake hosts a variety of activities that include kayaking, canoeing, swimming, paddle boating, sailing and fishing.

Shadow Lake participates in the LaRosa monitoring program which samples incoming streams and tributaries for phosphorus and other contaminants. Shadow Lake also has a lay monitoring program that tests for water clarity. Shadow Lake is one of the most pristine lakes in the Northeast Kingdom.

Shadow Scenery Around The Lake Cottage Names Vintage Postcards

Subscribe to our Newsletter
* indicates required

Email Address *

First Name

Last Name

STAY IN TOUCH

Check out the Shadow Lake LWAP webpage - <https://www.vacd.org/shadow-lake-action-plan/>

LWAP Process & Projects - Sarah Damsell - OCNRCD Manager
sarah.damsell@vt.nacdnet.net

LakeWise - Alison Marchione - VTDEC Lake Shoreland Coordinator
Alison.Marchione@vermont.gov

Shadow Lake Association slgvtpresident@gmail.com

LWAP Process & Projects – Kerrie Garvey kerrie@watershedca.com

Land Conservation – Vermont Land Trust & Vermont River Conservancy