

# ASWM State Wetland Program Integration Case Study: Vermont

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## Wetland Restoration and TMDLs in Vermont's Lake Champlain Basin



### State Wetland Program Information

This case study explores the integration efforts undertaken by the Vermont Agency of Natural Resources' Wetlands Program to achieve the Lake Champlain Total Maximum Daily Load (TMDL) phosphorus reduction goals through wetland restoration and protection. Vermont's Wetlands Program is run by one manager, six regulatory staff and 1.5 monitoring staff.

### Type of Integration Effort

This project promotes collaboration between the Wetlands Program and various federal, state, and local partners in identifying and implementing protection and restoration opportunities in areas of the Lake Champlain Basin with potential for offering critical wetland functions such as flood retention, water quality improvement, and erosion control.

### Scale of Integration Effort

The Vermont Wetlands Program is coordinating a statewide wetland restoration effort. This project focuses on increasing the number of natural wetlands and improving wetland functions within Vermont's portion of the Lake Champlain basin through collaboration with public and private, federal, state, and local partners.

### Project Leadership

The Vermont Wetlands Program co-leads this integration effort with current and past partners including the Vermont River Program, the Nature Conservancy, the Natural Resource Conservation Service, Vermont Housing and Conservation Board, Vermont Fish and Wildlife, US Fish and Wildlife, Tout

Unlimited, Vermont Agency of Agriculture and Food Markets, Ducks Unlimited, and various local land trusts.

## **Integration Goals**

By integrating the Wetlands Program with various partners, the Wetlands Program aims to achieve no net loss of wetland or wetland function in the Champlain Basin as a means of recognizing important components in the Lake Champlain TMDL. Specifically, the project is intended to help the Wetland Program achieve phosphorus reduction goals set for Lake Champlain.

## **Integration Process Timeline**

- Planning: 2016-2018
- Implementation: 2016-ongoing
  - Fall 2017: Partner Meetings established; Restoration modeling outreach.
  - Winter 2018: Database and protocol to improve tracking of statewide wetland conservation, enhancement, restoration, and creation.
  - Monitoring: Restoration monitoring initiated in 2018- ongoing.
- Summer of 2019 and beyond: Creation of a Statewide restoration planning strategy; continued Partner meetings; ongoing wetland restoration monitoring.

## **Resource Investment**

- Planning: Restoration priority map and calculator development: \$250,000
- Implementation: \$1,000,000-\$3,000,000 annually
- Monitoring: \$60,000
- Continual: staff time for coordination and outreach. Ongoing conservation and restoration funding required.

## **How Success Has Been Measured**

### ***Integration Outputs:***

- Updated a wetland restoration prioritization model that identifies and prioritizes potential restoration sites based on their ability to attenuate phosphorus, which is now publicly available.
- Contracted a project to create site profiles for 250 of the highest-ranking Lake Champlain basin sites.
- Developed a Wetland Easement Landowner Payment Calculator.
- Established a regular “Restoration Round Table” of statewide restoration organizations to coordinate efforts.
- Wetlands program has drafted a model wetland easement.
- Initiated a wetland restoration monitoring project with input from NRCS and US Fish and Wildlife.

### ***Integration Outcomes:***

- Established close contacts with other wetland restoration and conservation entities.
- Improved ecosystem services including water quality, phosphorus retention, wildlife habitat, erosion control, and flood storage.
- Successful designation of the Sandbar Delta Wetland Complex from a Class II to Class I wetland.
- Successful designation of the LaPlatte River Wetland Complex from a Class II to Class I wetland.
- Incorporation of wetland restoration projects and potential Class I wetlands into Basin Plans.

## Impact on Watershed-level Planning, Implementation or Outcomes

In establishing contact with other wetland professionals, the Wetlands Program has been able to identify, organize and track restoration and protection efforts of high priority ecosystems in the Lake Champlain Basin more efficiently and effectively. This should result in overall improved wetland functions in the region as well as more shared information and coordination on ongoing projects.

## Cost Benefit Insights

- TNC with UVM is working on cost benefit analysis now, which should be available in 2019.
- Trust for Public Land commissioned by Vermont Forest Partnership found that one dollar of investment in land conservation has returned approximately \$9 in natural goods or services. Valued intact wetlands as providing \$590 annually in natural goods and services.

## Other Impacts

- Non-monetary benefits
  - Water quality improvements in the Lake Champlain basin – qualitative, but over time quantitative.
  - Phosphorus retention in the Lake Champlain Basin – qualitative, but current studies hope to quantify in the coming few years.
  - Wildlife habitat protection, including RTE species - qualitative
  - Erosion control - qualitative
  - Flood storage – qualitative with some quantitative assessments available
  - Exemplary wetland natural community protection – quantitative
- Monetary benefits
  - Middlebury study: 1.8 million dollars of flood damage prevented according to a 2016 University of Vermont Study.

## Information about Policy-related Issues

Wetland restoration and protection has been identified in the Lake Champlain Total Maximum Daily Load (TMDL) as a critical component to achieving the TMDL's phosphorus reduction goals. With these goals in mind it is critical to understand the quantity and quality of wetland restoration taking place in Vermont. With the help of recent Wetland Program Development Grants, the Vermont Wetlands Program has successfully established a wetland restoration program with a statewide presence, in order

to track and document the work that is being done, which includes Wetland Reserve Easement projects, as well as many easements through the Vermont Land Trust and The Nature Conservancy. The goal of these restoration integrative efforts is to document, track and develop a long-term strategy for all organizations conducting wetland restoration and preservation work.

NRCS, in close partnership with US F&W, have been highly effective in implementing wetland easements with associated restoration on over 60 sites totaling over 3,000 acres in Vermont. In the last three years Vermont has designated over 1,000 acres of Class I wetlands. Since 2017, the RCPP incentive project has committed incentive payments to wetland restoration projects totaling over 600 acres.

## **Challenges & Lessons Learned**

Although state-wide restoration coordination has been applied, there are still barriers to wetland restoration implementation. Some of these include limited staff for outreach, limited funding for non-NRCS eligible projects, and lack of easement holders.

Restoration and conservation entities are eager to collaborate and leverage funds together. Regular communication within the restoration/conservation community ensures that efforts are distributed, organizations are not going after the same properties, collaboration opportunities can be identified early. We've heard from the restoration/conservation community that barriers to restoration and conservation (easements in particular) are that there are limited organizations that will hold small easements and that landowners do not want to keep these lands if they are still have a significant tax burden. Opportunities to address these challenges are to establish a stewardship collaborative, create a water quality land trust or expand coverage of land trusts, and address legislation to reduce taxes or otherwise incentivize conservation of natural areas.

## **Next Steps**

- Develop a Statewide Strategy for Wetland Restoration
- Develop a restoration reporting protocol that includes Partner-specific restoration goals so that each organization's goals are tracked.

## **Transferability**

This situation is unique to Vermont, as wetland restoration had been highlighted as a major goal of the Lake Champlain TMDL in order to achieve phosphorus reduction. This drove the need for a better understanding of what is happening with wetland restoration efforts in Vermont, as a tracking system for these projects did not exist. The Vermont Wetlands Program received grant funding to create a restoration "point" person within the Program to lead up wetland restoration coordination efforts. With Vermont being a "small" state, the Wetlands Program interacts often with other partners such as NRCS, ACOE, and non-profits like TNC, so relationships with other restoration partners had already been established.

## Contact Information

### **Tina Health**

#### **Vermont Wetlands Program**

Vermont Department of Environmental Conservation

Address: 111 West St, Essex Junction, Vermont 05452

Telephone: **802-490-6202**

Email: [Tina.health@vermont.gov](mailto:Tina.health@vermont.gov)

### **Julie Follensbee**

#### **Vermont Wetlands Program**

Vermont Department of Environmental Conservation

Telephone: 802-490-6175

Email: [julie.follensbee@vermont.gov](mailto:julie.follensbee@vermont.gov)