Vermont Wetlands Supporting Climate Resilience

Laura Lapierre,
Wetlands Program Manager
March 11, 2024
Outline

• Wetlands overview
• Wetland functions
• Wetland program overview
• Map updates
• Outreach efforts
• Monitoring
• Restoration
• Regulations
Where Land and Water Meet
Historically Vermont has lost 35% of wetland area. ~4% is wetland today.
Flood & Storm Water Storage

University of Vermont Studies

- Otter Creek wetlands and floodplains protected Middlebury from up to **1.8 million in flood damage** during Tropical Storm Irene.
- Average yearly savings from wetland/floodplain protection for Middlebury between $126,000 to $450,000
Slow the flow.
Vermont Wetlands Program

- Identify wetland locations with maps and site visits
- Outreach about wetlands
- Assess the health of wetlands
- Support voluntary wetland restoration
- Implement Vermont Wetland Rules
  - Review project plans
  - Require wetland avoidance where possible
  - Ensure no net loss of wetland function or value

The TEAM
Wetland Map Updates Underway

Missisquoi River Basin Wetlands were updated for the VSWI in early 2023. Area updated: 603 square miles.

(Partial) Lamoille River Basin Wetlands are awaiting USFWS approval. Area to be updated: 233 sqmi

Over 30% of statewide NWI will be complete in July 2024

Nearly 80% of statewide NWI will be complete before 2025

Over 250 changes are on public notice until April 2.
Predicting Wetland Function

Using Maps - National Wetlands Inventory Plus:
Landscape Position
Landform
Water Flow Path
Waterbody Type

Wetland Screening Tool

**Wetland Screening Result: Very Likely**

- Wetland Project within (500ft.)
- Issued Wetland Permit (within 1000ft.)
- Vermont Significant Inventory Map
- Vermont Significant Inventory Map (within 300ft)
- Wetland Advisory Maps
- Wetland Advisory Maps (within 300ft)
- Hydric Soils (FACW)
- Hydric Soils
This parcel has been flagged as a “Swamp Lot”.

These are properties that may have very limited development potential due to wetland presence. Please contact your District Wetland Ecologist for a review at Contact Wetlands Staff | Department of Environmental Conservation (vermont.gov) before proceeding with any projects. For more information on how this parcel was identified as a Swamp Lot, and what may be possible, explore the links below.

What Can I do With a Swamp Lot? : Offers options for enjoying and utilizing lots that have limited development potential due to wetland presence.
Swamp Lot Mapping Guidance : Information on how a property is identified as a “Swamp Lot”, next steps, jurisdictional considerations, and resource links.
Vermont Wetlands Identification and Regulations for Real Estate Professionals
Shannon Morrison, Wetlands Ecologist

The Vermont Wetlands Program
Landowner’s Guide to Wetlands

What to Know Before You Purchase Land or Build

VERMONT WETLANDS SURVEY
Do you know how to identify a wetland?

Take our survey for a chance to WIN a $50 Amazon Gift Card!
Wetlands Biomonitoring

- Monitoring in floodplains, streamside wetlands, and seeps extreme weather impacts.
- Monitoring marginally wet communities for climate effects on wetland extent.
- Reference condition surveys.
- Focus on ecosystem types on the northern or southern extent in VT.
- Study how peatlands respond to climate change and how that changes carbon sequestration.
The Wetland Restoration Potential Layer (2017) is found in the Wetland Inventory Map under “Wetland Map”, “Watershed Protection”.

Learn more: https://dec.vermont.gov/watershed/wetlands/protect/restore
Vermont Wetland Rules regulate activities in protected wetlands

VT Wetland Classification System:
Class I: Exceptional function and value
Class II: Significant function and value
Class III: Not significant, no regulation

Permits are issued when an activity cannot be placed elsewhere and functions and values are not adversely affected or adverse effects are mitigated.

7 Review Staff
200+ Permits Annually
>1,100 Projects Reviewed Annually
Wetland projects (2016-2020)

Permitted
 Reviewed

1) Deerfield-CT Direct
2) West, Williams, Saxtons
3) Batten Kill, Wallowasac
4) Ottaquechee, Black
5) Southern Lake Champlain
6) White River
7) Winooski River
8) Otter Creek
9) Stevens, Wells, Waits, Omp.
10) Passumpsic River
11) Lamolle River
12) Northern Lake Champlain
13) Missisquoi River
14) Upper Connecticut
15) Lake Memphremagog

Permitted Wetland and Buffer Impacts by Basin (2016-2020)

Permitted Wetland Loss by Basin (2016-2020)
Wetland Losses and Gains 2022

2022:
2.5 acres of wetland filled
5.2 acres of wetland enhanced or restored

Table 1: Loss and Gain By County
(in square feet)

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Wetland Investigations 2016-2022

See Legislative Reports: “Report to the Legislature Uniform Environmental Enforcement Act” 2016-2022