

Wetland Map Development and Utility for Wetland Programs

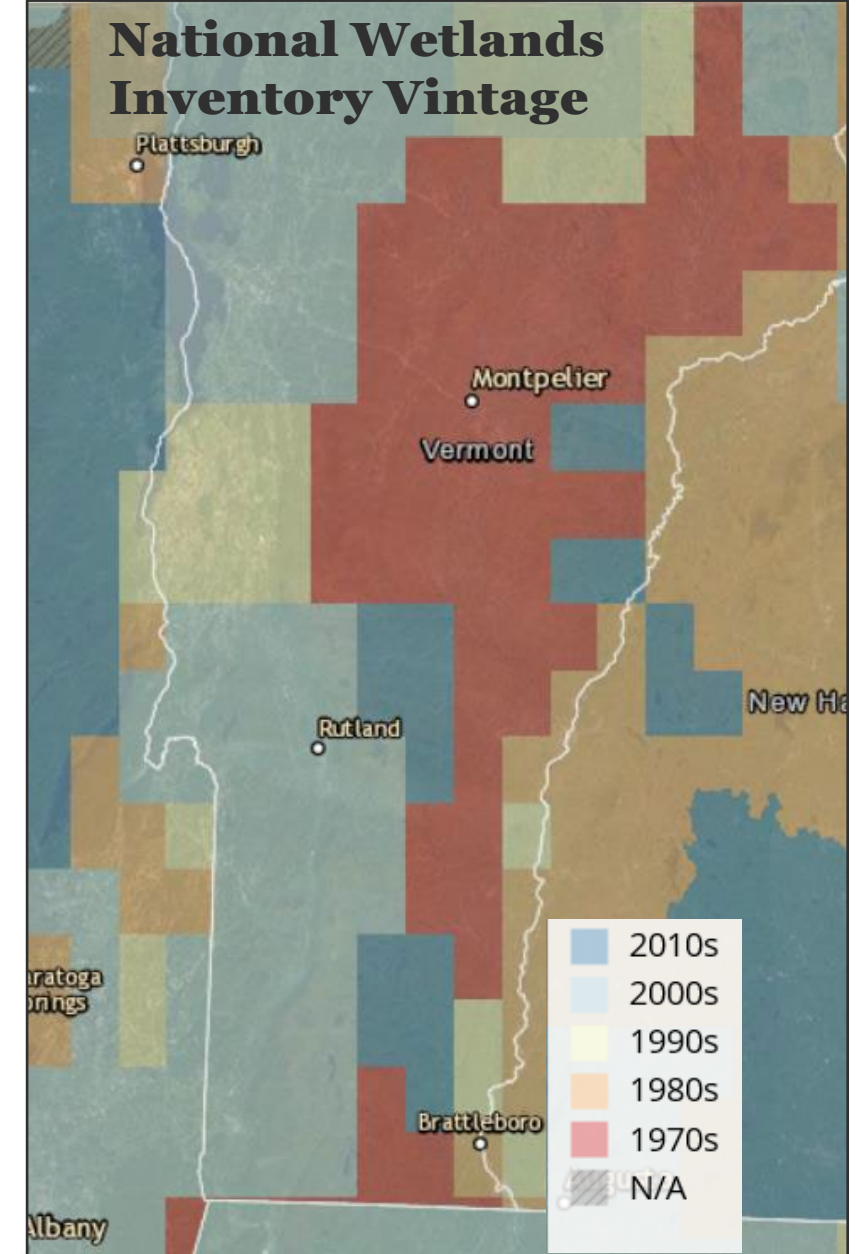
Laura Lapierre, Wetlands Program Manager



Wetland Maps are Foundational for Wetland Management

Wetland Mapping is mentioned in all four core elements of the Core Elements Framework

NEBAWWG  NEIWPCC
Other New England states (MA, CT)
updated wetland maps, provided advice.





Support and Funding



“Not All Wetlands Are Mapped”

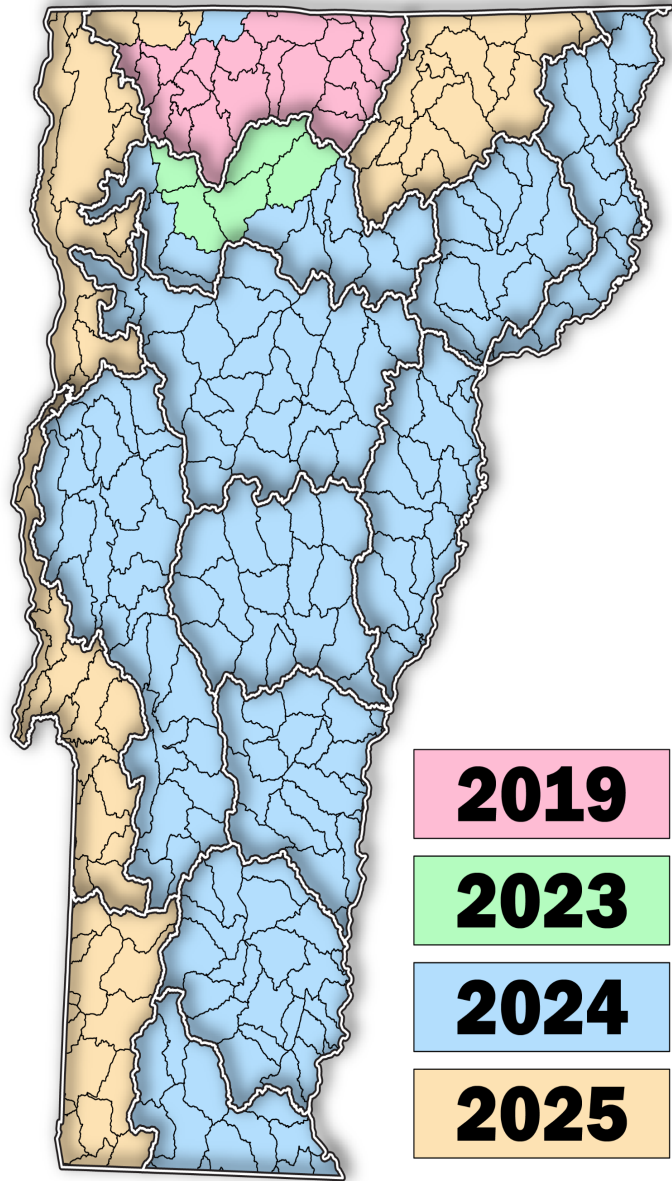
2017: Wetland Program Development Grant

2019: Wetland Program Development Grant and
EPA Lake Champlain Clean up Funds

2020: Long Island Sound Futures Fund Grant &
USFWS Grant

2022: State General Fund Allocation

National Wetlands Inventory ~\$90/sqmi



Statewide NWI Update

Involve USFWS Early

Develop Good Signature Guidance

Field Verification Time ↑ Quality

Public Support and Skepticism

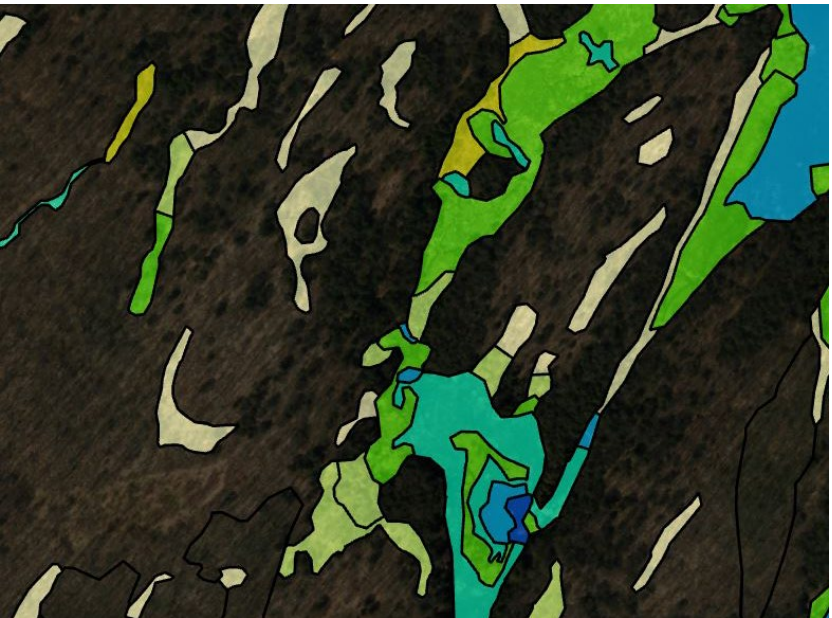
Automated modeling promising but
“not there yet”.

Good LIDAR DEM is a gamechanger

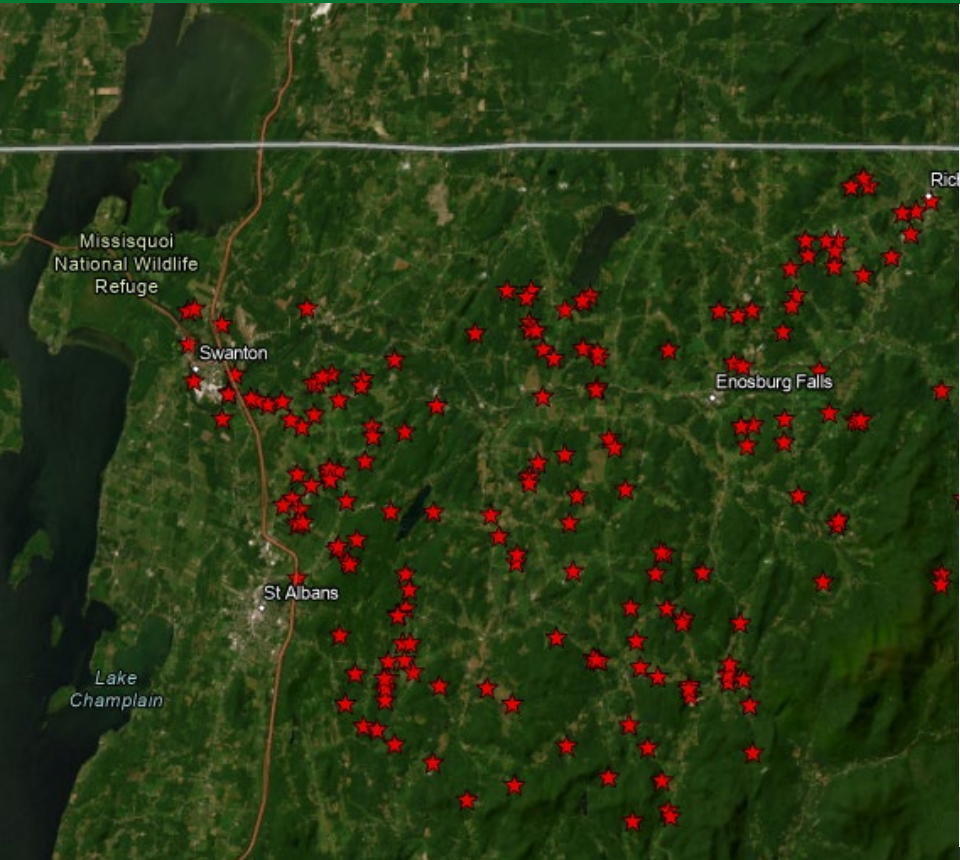


Permit and Fieldwork Wetland Mapping

Adding wetlands one-by-one.



Random Stratified Monitoring



Random Stratified points selected based on old NWI resulted in bias

Much of time for NWCA spent on visiting sites to check if wetland is present as correct type

After updates, all visited sites were wetland of correct type.

Additional Uses For Monitoring



Locating wetlands that may qualify for Class I protection

Locating priority wetland types such as peatlands and disconnected wetlands

Finding wetlands more effectively during conserved lands inventories

Wetland Restoration

Wetland Restoration
Prioritization Model, Lake
Champlain Basin

Future Statewide
restoration model

Functioning Floodplain
Initiative

Phosphorus Attenuation
Calculator

Pre and Post restoration Google Earth imagery of site in Leicester, VT
Restored by Partners for Fish and Wildlife, USFWS. NRCS WRE.



Landscape-Level Predictions of Wetland Function



- Surface Water Detention
- Streamflow Maintenance
- Nutrient Transformation
- Carbon Sequestration
- Sediment Retention
- Bank and Shoreline Stabilization
- Fish/Aquatic Invertebrate Habitat
- Waterfowl and Waterbird Habitat
- Other Wildlife Habitat
- Unique Wetland Plant Communities



Parameter	Polygon Wetland Features		
	Area (acres)	% of wetland polygons	% of project area
Carbon Sequestration (CAR)			
Moderate	2,412	2.3	<0.1
Fish Habitat (FH)			
High	3,643	3.5	<0.1
Moderate	15,050	14.5	0.2
Groundwater recharge (GR)			
High	81,952	78.9	1.1
Moderate	8,168	7.9	0.1
Nutrient Transformation (NT)			
High	5,662	5.5	<0.1
Moderate	12,787	12.3	0.2
Other Wildlife Habitat (OWH)*			
High	97,173	93.6	1.4
Moderate	36,781	35.4*	0.5

Wetland Screening Tool

Address SPAN 1 market street south burlington

Submit Clear Print

Status:	14/14 queries completed... DONE!
Matching Address:	396 DORSET ST. SOUTH BURLINGTON, 05403
Grand List Owner:	
SPAN:	
District Wetland Ecologist:	Tina Heath, Phone: 802-495-1393

[Link to Wetland Map](#)

- 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)
- Hydic Soils (FACW)
- Hydic Soils



Swamp Lot Project

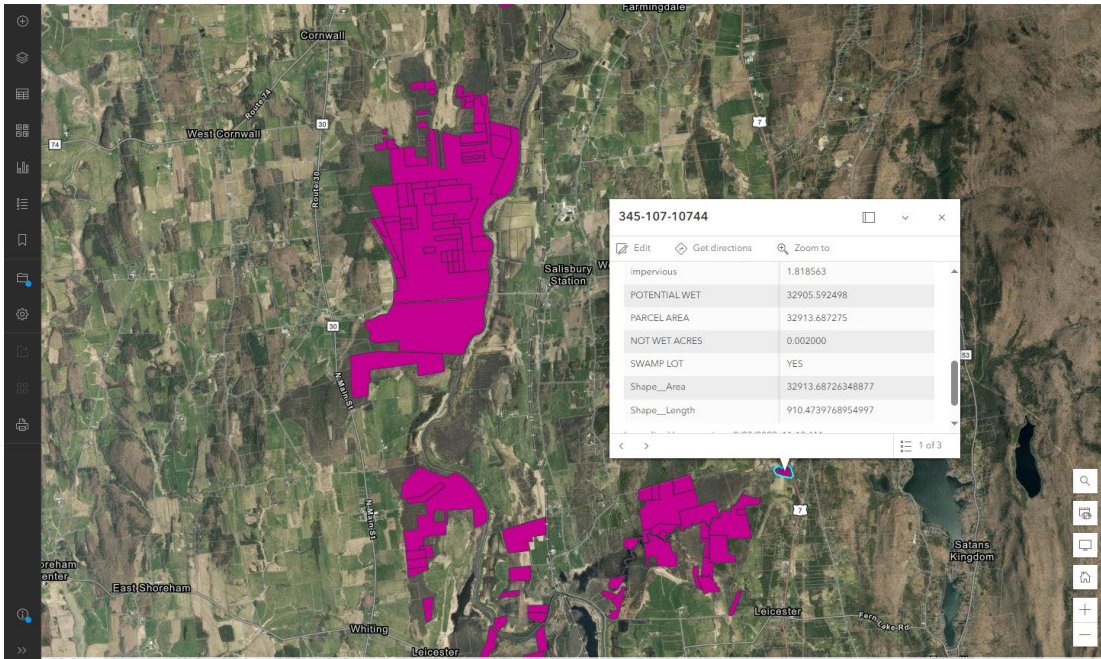
Project purpose is to identify **currently undeveloped** lots with **less than a half acre** of upland to develop.

Layers that contribute to the Swamp Lot layer

- Vermont Significant Wetlands Inventory
- Advisory complement to VSWI layer
 - in-house mapping
- Exemplary Wetland Natural Communities layer from Natural Heritage Inventory
 - Strong Hydric Soils layer
 - Land Cover dataset

Results after a Screening Tool hit

- Recommendation to contact District Ecologist
 - “What is a Swamp Lot” document
- “What can I do with a Swamp Lot” document



Address SPAN 120-037-10781

Status:	14/14 queries completed... DONE!
Matching Address:	No matching E911 Address.
Grand List Owner:	THULMAN MARY
SPAN:	120-037-10781
District Wetland Ecologist:	Shannon Morrison , Phone: 802-490-6178
Link to Wetland Map	

Wetland Screening Result: Swamp Lot ^

This parcel has been flagged as a “Swamp Lot”.

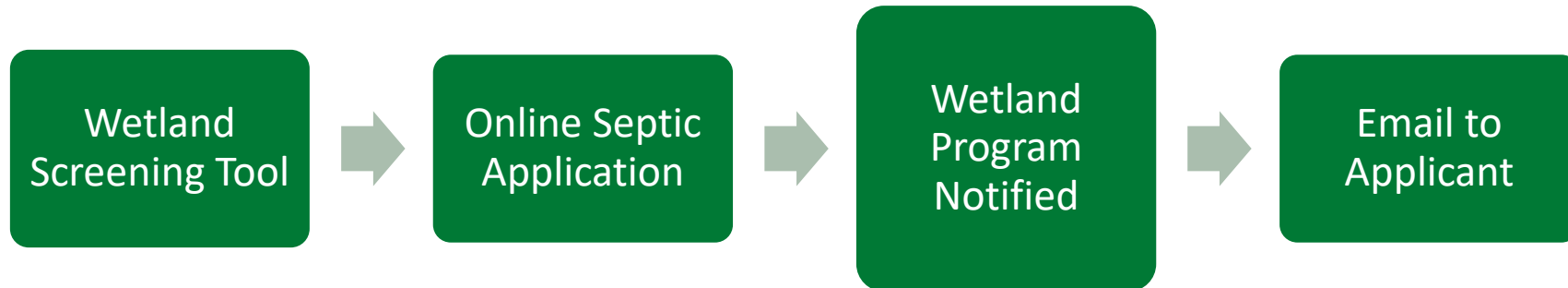
These are properties that may have very limited development potential due to wetland presence. Please contact your District Wetland Ecologist for a review at [Contact Wetlands Staff | Department of Environmental Conservation \(vermont.gov\)](#) before proceeding with any projects. For more information 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.

Enjoy,
Use,
Conserve,
Or Sell

Septic Project Wetland Awareness



Wetland Outreach



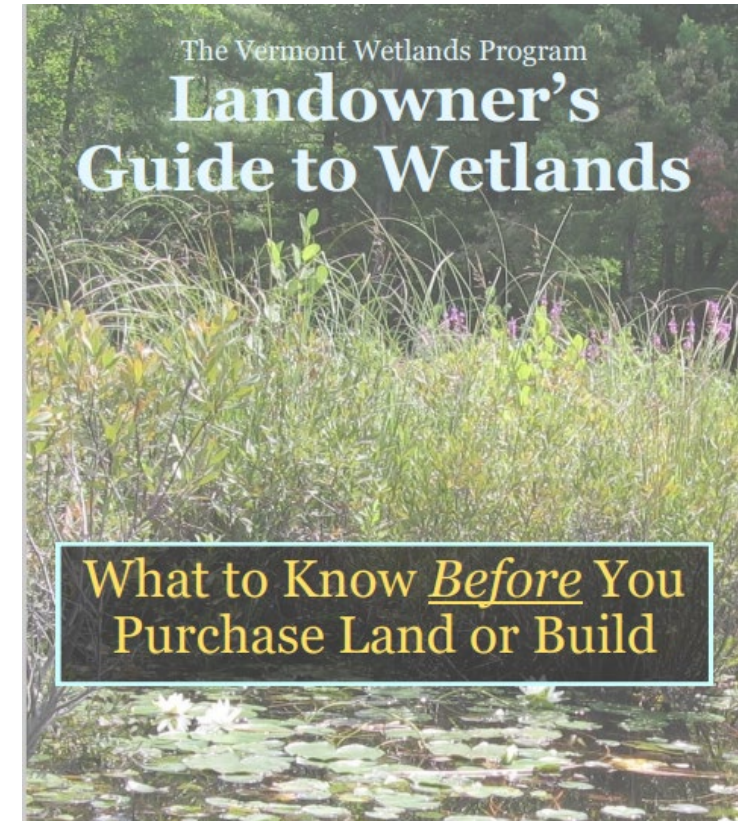
**VERMONT
WETLANDS
SURVEY**

Do you know
how to identify
a wetland?

^{\$50}
a

Take our survey for a chance to
**WIN a \$50
Amazon Gift Card!**

Wetland map updates are a
great conversation starter.



The Vermont Wetlands Program
**Landowner's
Guide to Wetlands**

*What to Know Before You
Purchase Land or Build*

Wetland Maps, a tool with many uses.

