Where Land & Water Meet

Wetland Identification
and State Jurisdiction

Presented by Tina Heath
DEC Wetland Ecologist

VT Wetland Definition

- "Those areas of the state that are inundated by surface or ground water with a frequency sufficient to support significant vegetation or aquatic life that depend on saturated or seasonally saturated soils conditions for growth and reproduction." (VWR § 2.38)

Wetland Identification: Three Parameters

Hydric Soils

Hydrophytic Vegetation

Hydrology

Wetland Hydrology

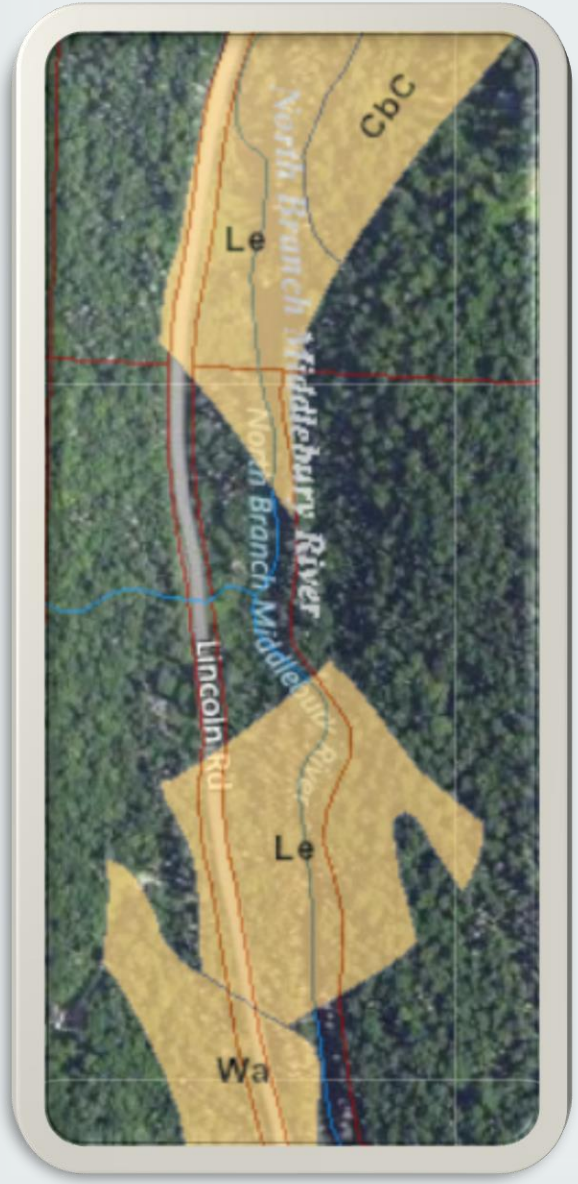
Criteria: Inundation or saturation to within soil surface for at least **5%** of growing season in most years

- Primary indicator examples: actual observation of **surface water**, soil saturation, **high ground water table**, algal mat, oxidized root channels, hydrogen sulfide odor, or **inundation visible on aerial imagery.**

- Secondary indicator examples: water-stained leaves, **stunted or stressed plants**, geomorphic position, **drainage patterns**

Wetlands are often associated with streams or lakes

Wetland Soil



Hydric mineral soils have gray colors with orange/red mottling

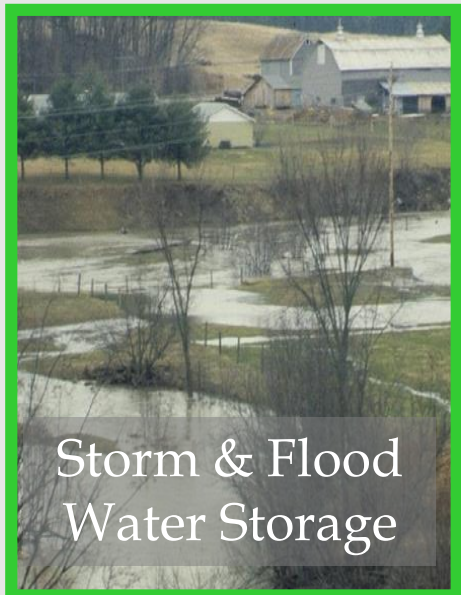
Hydric organic soils are very dark, almost black

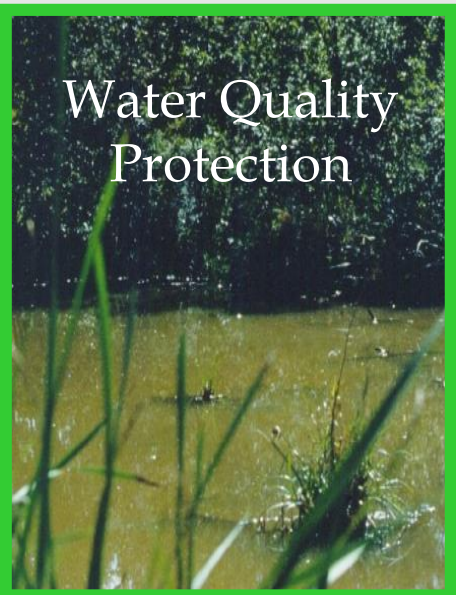
Wetland Plants

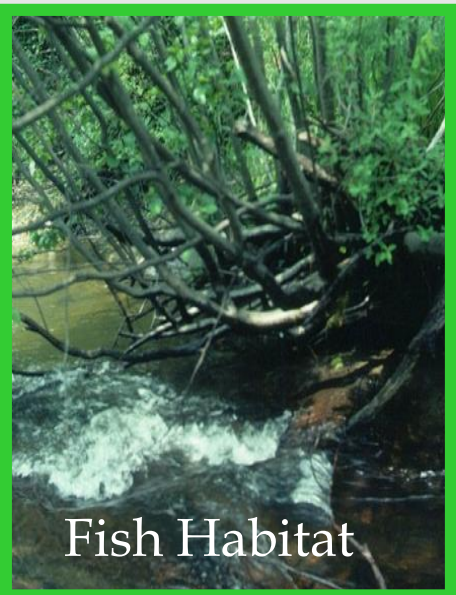
Wetland plants, or **hydrophytic** "water loving" **vegetation**, are those plants which have adapted to growing in the low-oxygen (anaerobic) conditions associated with prolonged saturation or flooding. ... Plant species vary in their tolerance of wetland conditions.

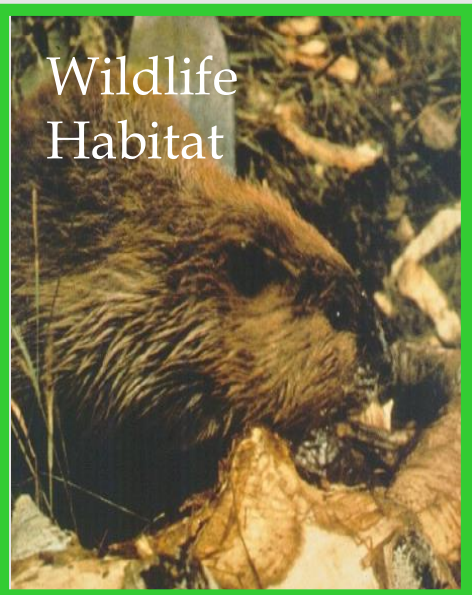
When you have a dominance of water loving plants you have met the plant criteria for wetland identification

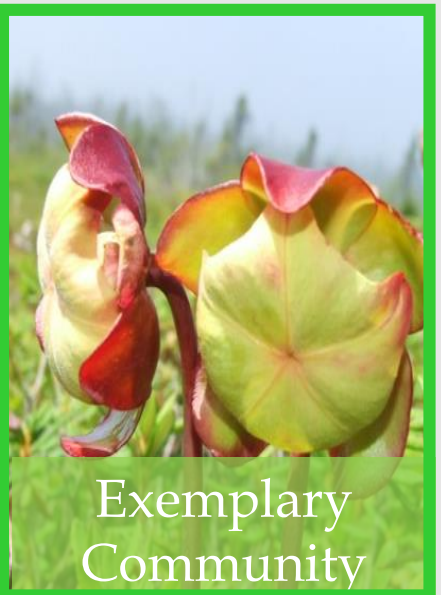
Vermont's Wetlands Provide

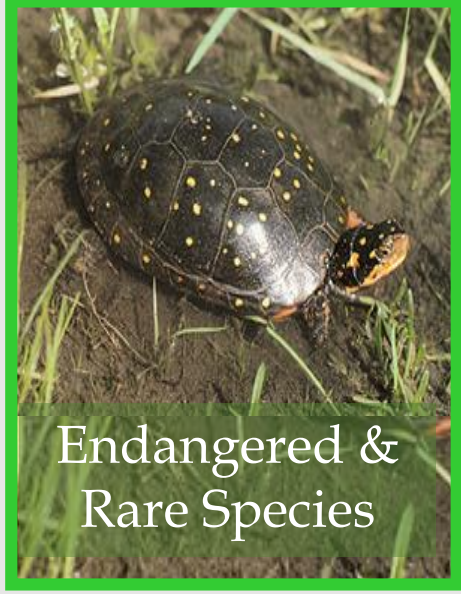


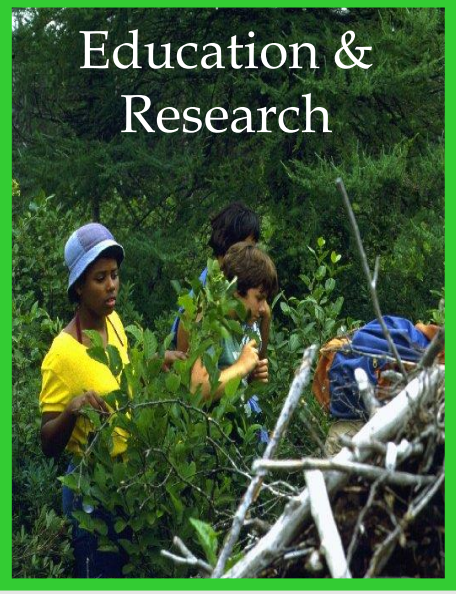


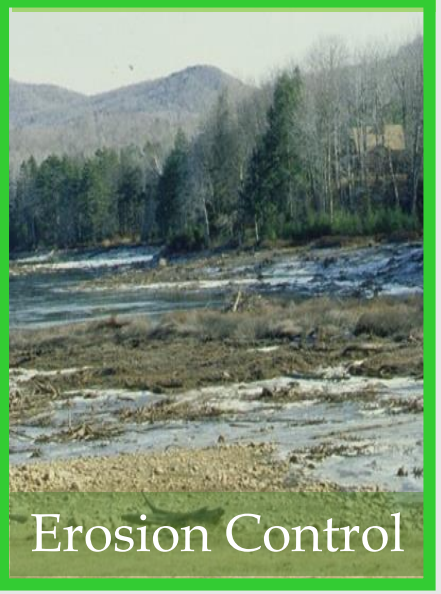












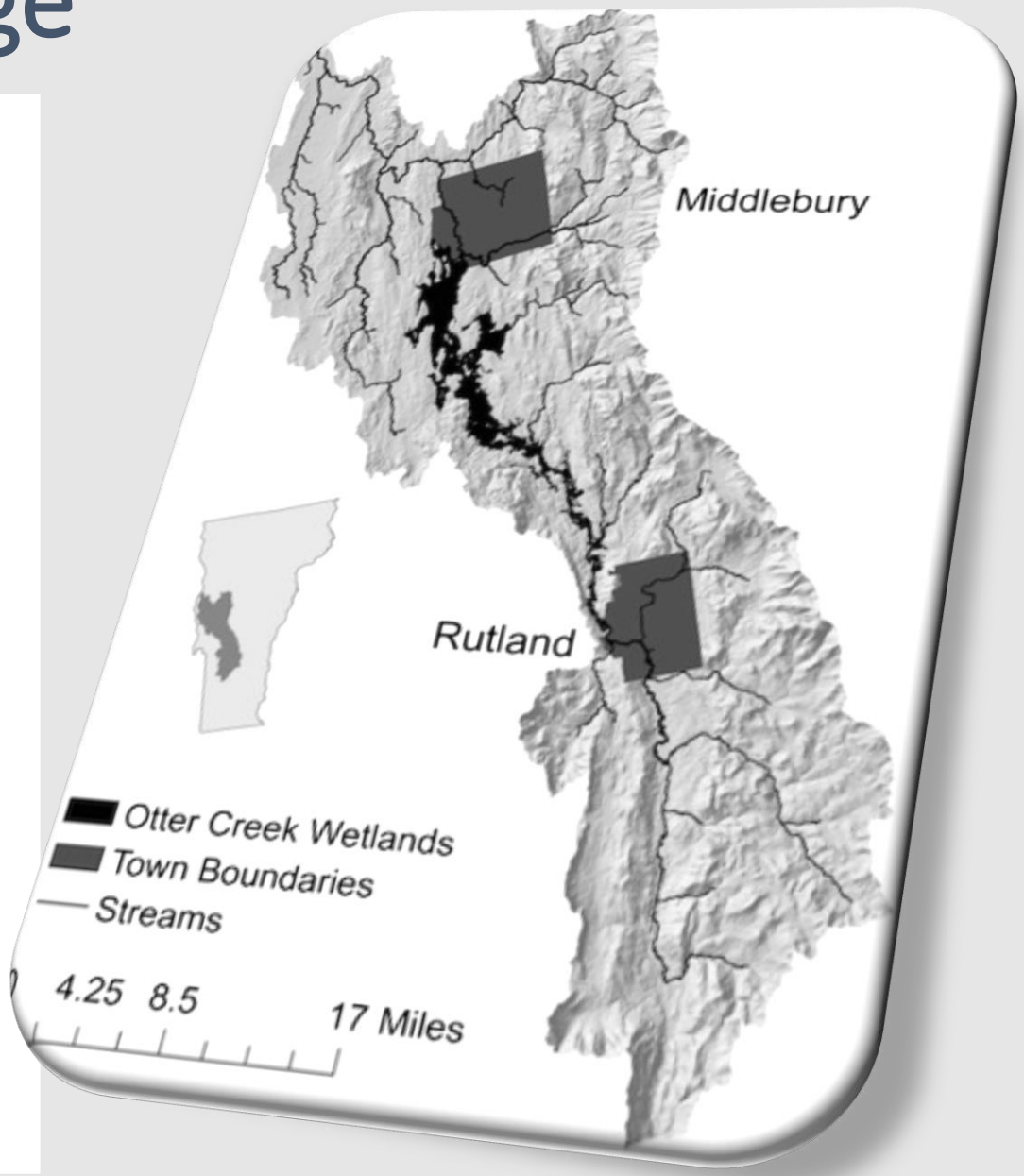
Flood & Storm Water Storage

University of Vermont Studies

Wetlands & floodplains protected Middlebury from as much as **$1.8 million in flood damage** during Tropical Storm Irene.

AND

Researchers analyzed 10 flood events to estimate the economic value of the Otter Creek floodplain/wetlands near Middlebury. They found the natural barrier **saves the town up to 78%** of potential damages, or between $126,000 to $450,000 per year on average.



Vermont Wetland Rules

- Wetlands deemed significant enough to be protected based on their function and value

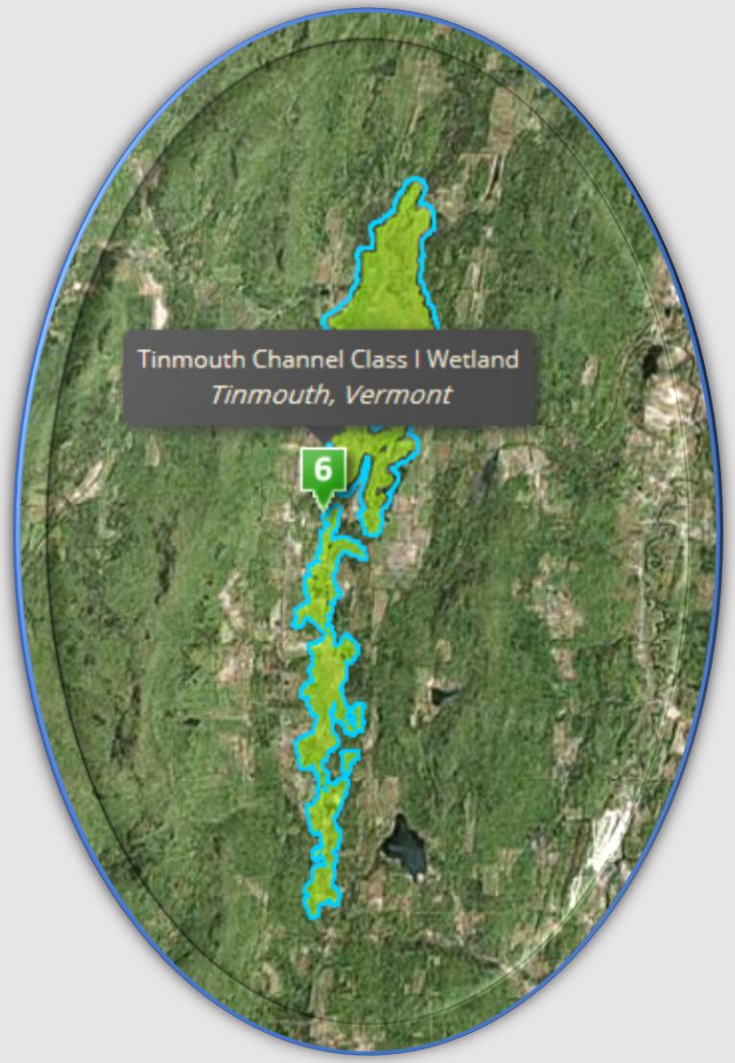
- Implemented in 1990
- Significant rule change in 2010

2006 VT Wetland Mapping Study

- UVM study looked at Charlotte and Hinesburg.
- Used the aerial imagery with double the original resolution.
  - Results
    - Number of wetlands increased from 383 (4.7%) to 1791 (7.7%).
    - NWI missed smaller wetlands and forested wetlands

- NWI underestimates the extent of wetlands by 39-46%

Wetland Classification in VT



- Based on an evaluation of the extent to which the wetland provides functions and values:
  - *Class I Wetland*: Exceptional or irreplaceable in its contribution to VT's natural heritage and merits the highest level of protection (via rulemaking)
    - 8 Class I wetlands- all are mapped
    - Standard 100-foot upland buffer, can be more
  - ***Class II Wetland*: Merits protection, either taken alone or in conjunction with other wetlands**
    - Can either be mapped or not
    - 50-foot buffer zones
  - *Class III Wetland*: Neither Class I or Class II wetland
    - Non-jurisdictional under VWR

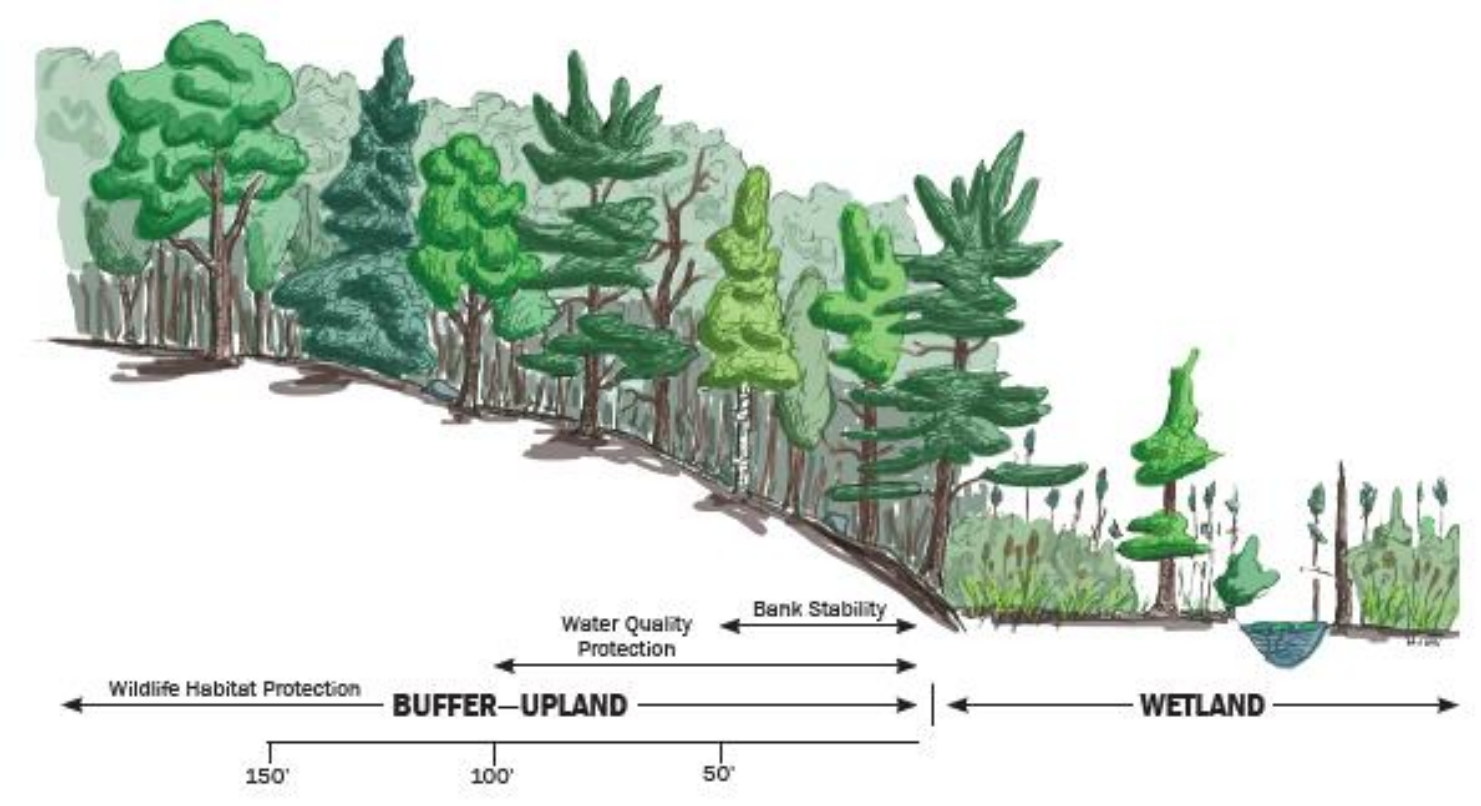
Jurisdictional Wetlands- Criteria

- Any wetland on the VSWI map
- Any wetland contiguous or connected to the VSWI mapped wetland
- Any wetland that is the same type and size as what is on the VSWI maps (1/2 acre or larger)

- Wetlands over or under a half acre that are:
  - adjacent to a stream, lake, pond, or river
  - vernal pools
  - special and unique wetlands like bogs or fens
  - headwaters above 2,500 feet elevation

Jurisdictional Buffer Zone

- Function: protects wetland from disturbance; water quality& wildlife habitat; prevention of invasive species spread

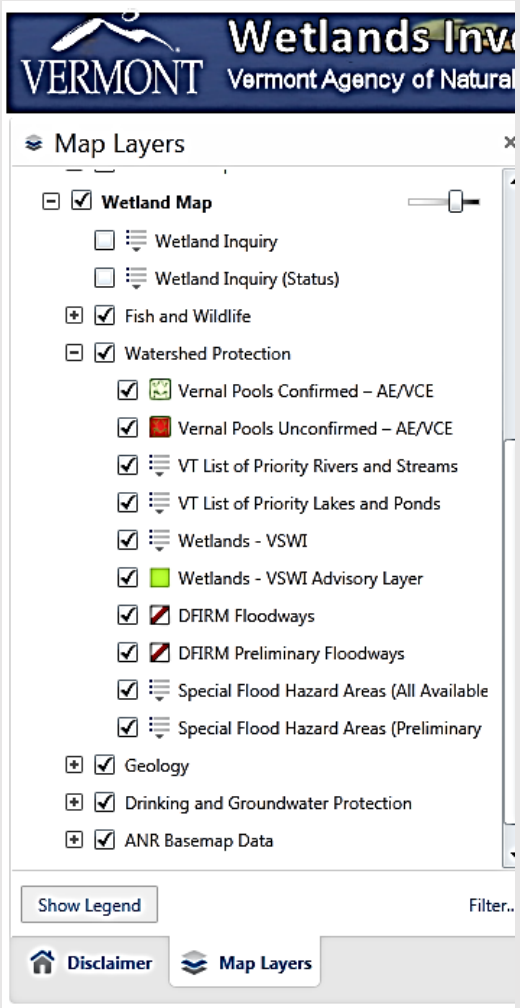


Area of upland around a wetland which provides protection to function and value

Width changes with state wetland classification:

- Class I = 100-ft buffer or larger
- Class II = 50-ft buffer

Vermont Significant Wetland Inventory Map

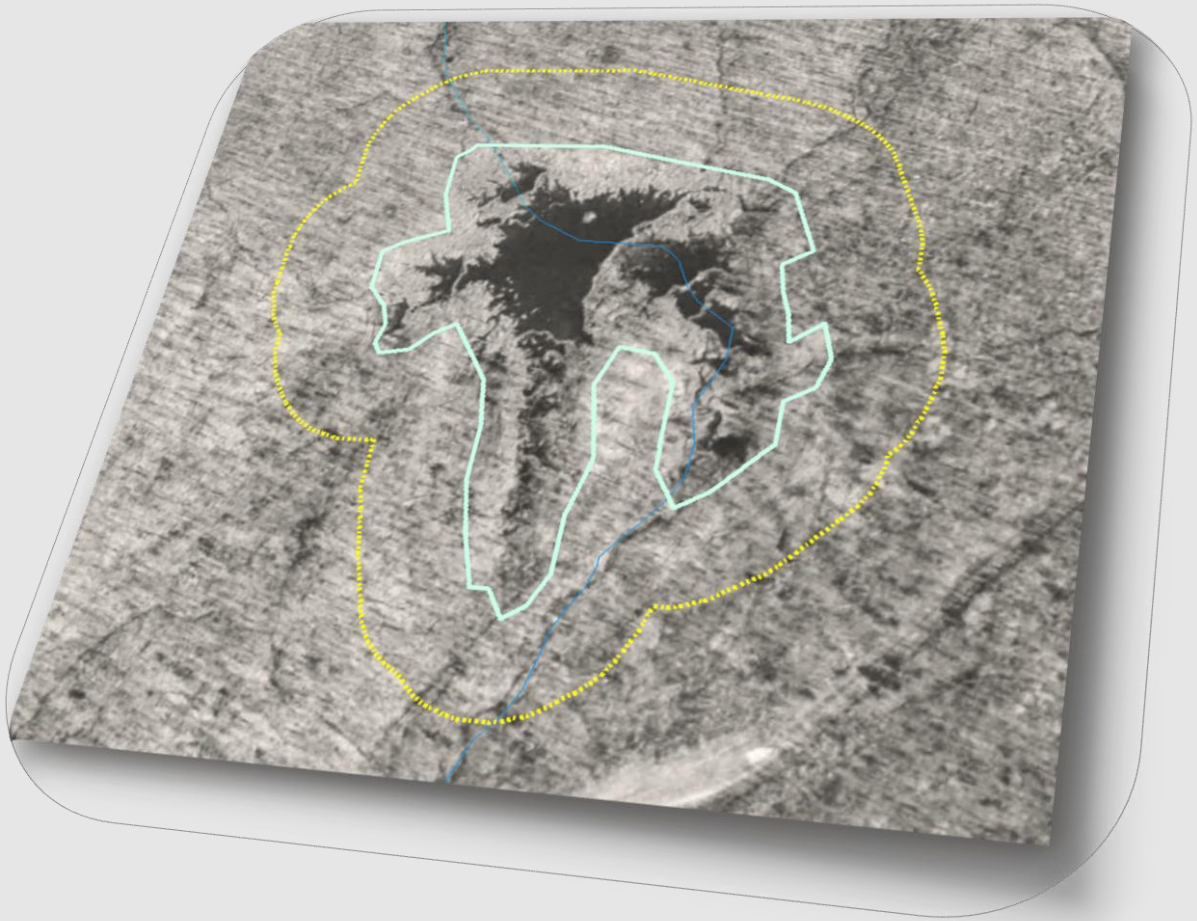


Disclaimer: NOT accurate and up to 46 % of VT wetlands are not mapped but may be jurisdictional.

http://anrmaps.vermont.gov/websites/WetlandProjects/default.html

Regulation

- Exempt Activities (Section 3.1)
- Allowed Uses (Section 6)
- Permitting (Section 9)



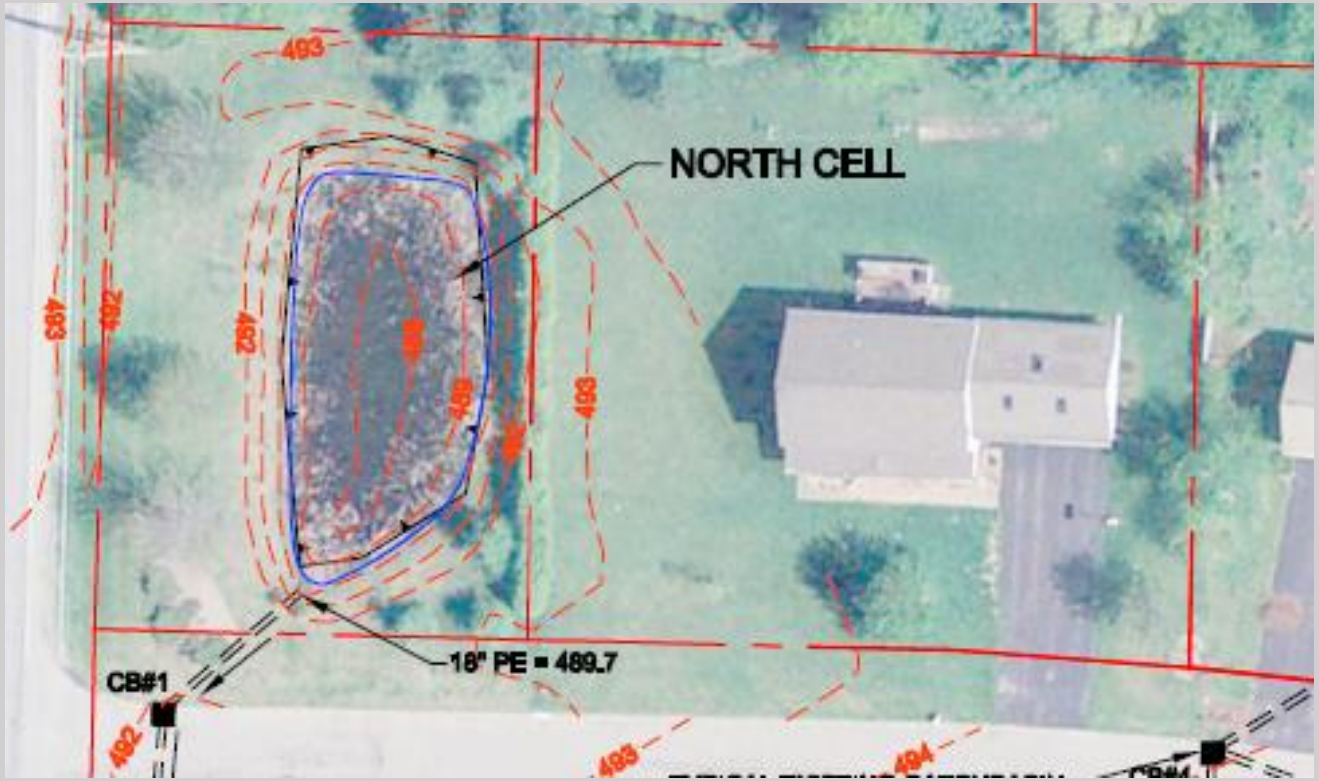
Exemptions (VWR §3.1)

- Farming exemption- The growing of food or crop in connection with farming activities
  - Limitation: only areas that have been in ordinary rotation since the effective date of the VWR (1990). The exemption expires whenever the area is no longer used to grow food or crops or in ordinary rotation.

- Existing constructed features- the following man-made features, which when constructed in uplands may exhibit wetland characteristics:
  - **Stormwater conveyance, treatment and/or control systems**
  - Wastewater treatment ponds and sludge lagoons
  - Manure storage and treatment ponds
  - Irrigation and active farming-related ponds
  - Snowmaking ponds
  - Other similar constructed ponds created in uplands.

- Permitted public highway projects- only if it has received an Act 250 permit prior to VWR (1990).

VT DEC


NORTH CELL
18" PE = 489.7
CB#1
493
492
494

Allowed Uses (VWR §6)

"The following uses shall be allowed in a Class I or Class II wetland and in its buffer zone without a permit, provided that the configuration of the wetland's outlet or the flow of water into or out of the wetland is not altered and that no draining, dredging, filling, or grading occurs except as may be provided for in subsections 6.01, 6.02, 6.03, 6.04, 6.07, 6.08, 6.12, 6.13, 6.14, 6.15, 6.16, and 6.22"

Allowed Use 6.12- *"the maintenance, reconstruction or routine repair of structures and facilities… or additions to structures or facilities that do not involve substantial expansion or modification"*

Non-substantial modification or expansion = 250 sf of additional impact outside of structure's footprint

Does the Activity Proposed Need a Permit?

YES

- Activity occurs in a Class I or II wetland or buffer zone and is not considered an allowed use:
  - Grading, filling, ditching or dredging
  - Removal of vegetation such as tree cutting or conversion
  - Construction of infrastructure

NO

- Activity occurs in a Class III wetland
- Activity proposed outside wetland and buffer.
- Activity qualifies as an allowed use.

3-025 General Permit (GP)**

Qualifications

- Minor impacts with previously defined conditions
  - Must meet square footage threshold for complete project and BMPs

- Not for after-the-fact impacts or special wetland types

*see limitations on coverage (VT Wetland General Permit 3-9025 §3)
*conditions are already defined

Individual Permit

Qualifications

- Activity exceeds thresholds of GP
- Activity was in violation
- Activity has an undue adverse impact
- Activity in Class I wetland or buffer
- Site has RTE species
- Site has special wetlands
- Site has headwater wetlands

How IP differs from GP

- Requires an approved professional wetland delineation
- Requires a Functions and Values evaluation
- Has a longer notice period
- Requires a complete distribution to abutters

Avoidance and Minimization

- Must demonstrate there is no other practicable alternative on property owned or available that avoids wetland and buffer impacts
- Must use project design to avoid impacts to wetlands, buffers and their functions and values to the greatest extent possible
- Must offset potential impacts if they are unavoidable through minimization or restoration

3-9026 Non-Reporting General Permit

Limited to specific practices that are intended to improve WQ:

- WQ improvement project on farms (non-reporting)
- Retrofit stormwater treatment projects (registration)
- Stream crossing structure replacements for public safety (registration)
- Replacement of failed wastewater systems (registration)

Eligible activities are limited by:

- impact thresholds
- type of impacted wetland

Self-verification of avoidance and minimization, and therefore no undue adverse impacts to the wetland and its functions

Implementation of the VWR to some common municipal projects

Vermont Wetland Rules : Municipal Roads

- **Road:** A road is a linear facility with a surface constructed from imported fill, used primarily for vehicular travel and access. A road structure is measured from the filled toe of slope to the toe of slope of either road shoulder, which is commonly called the **road prism.**

- **Rights of Way:** The road right of way is the legal delimitation within which a public road may be constructed and maintained. **VWR applies.**
- **Naturalized Roads:** A road is considered naturalized if the road surface cannot be easily distinguished from the adjacent area (e.g., is the same or similar to the native ground) or if 4-foot tall woody vegetation is growing within the route, or it is impassable. **VWR applies.**

- **Class 4 Roads:** Class 4 roads are not required by statute to be maintained as negotiable under normal conditions all seasons of the year. Class 4 roads may become naturalized. **VWR apply to all activities within most Class 4 roads.**

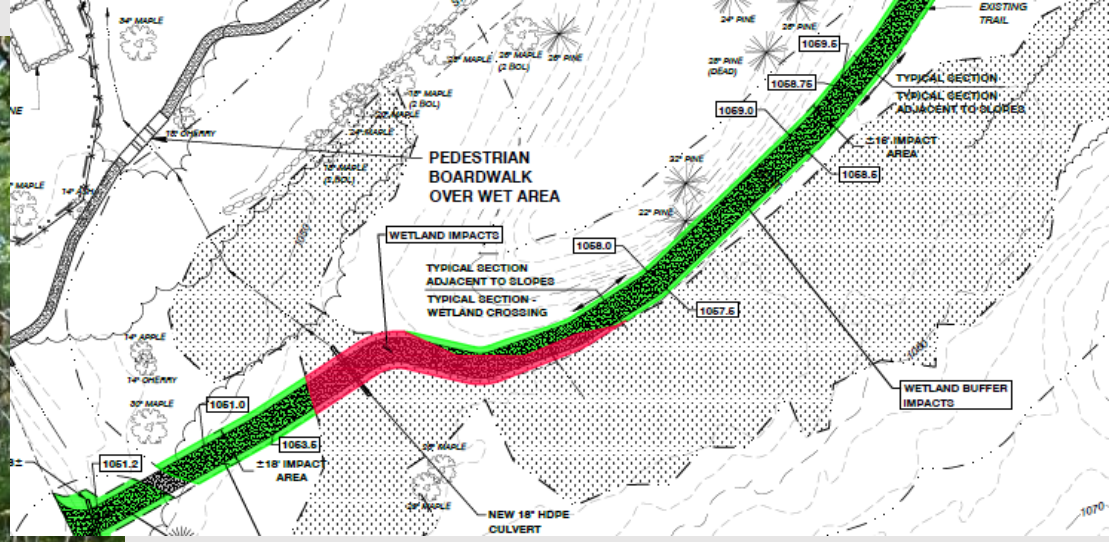
- **Travel Ways:** areas that have been traditionally traveled on. Not constructed; native material (not previously filled). **VWR applies**

Allowed Use: **Section 6.12 applied to roads**

- Road upgrades and improvements may be allowed without a permit if they qualify as maintenance, reconstruction, or repair. **"Maintenance and repair"** includes resurfacing, grading, clearing shoulders, replacing culverts, and patching potholes.

- **"Reconstruction"** constitutes the rebuilding of existing functional roads but <u>does not include the rebuilding of naturalized roads</u>. The rebuilding of a road that has been destroyed or damaged by an event is considered reconstruction.

- **“Additions to structures”** as long as those additions do not involve substantial expansion or modification in a wetland or buffer. Any one-time addition to a road involving less than 250 square feet of new impact does not constitute a substantial expansion and qualifies as an allowed use under this section.



Project: Upgrade existing travel way for safety purposes at the Ethan Allen Firing Range

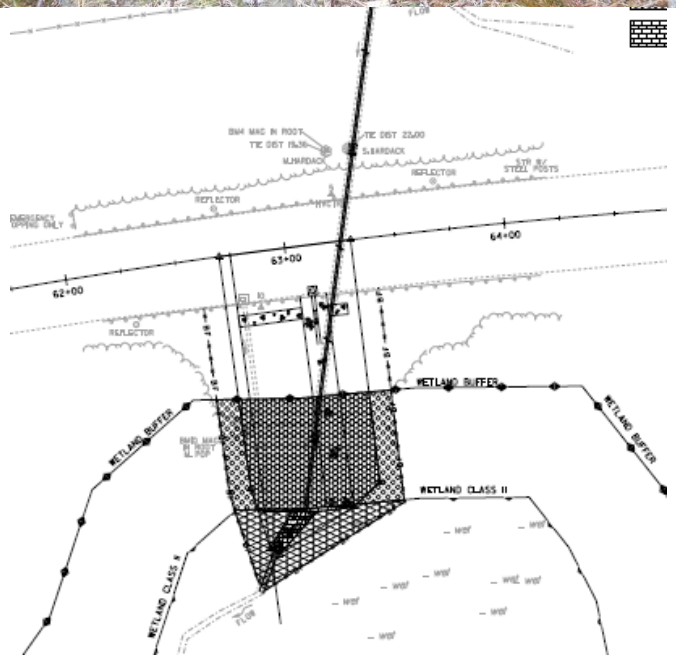
- **Existing conditions:**

no imported fill, could not be easily distinguished

Entire travel way through wetland and buffer required a permit.

Crossings: Culverts and Bridges

- First step: Contact me for a site visit.
- Culvert and bridge maintenance/replacement projects may qualify for the NRGP. Check to determine if eligible based on the project purpose and impact thresholds.
- If it does not qualify for the NRGP, determine if project qualifies as an allowed use (stays within existing footprint and does not exceed 250 sf of additional impacts)
- A permit may be needed if (includes both permanent and temporary impacts to wetland or buffer):
  - Staging/ access road for machinery is needed
  - Stock piling of materials
  - New culvert is significantly larger than existing
  - Vegetation clearing beyond road fill footprint
- Beaver dam conflicts: Contact me before tinkering with a dam.



Project: VTrans stabilization/ storm pipe replacement

- Bank stabilization and culvert replacement considered AU 6.12 (bank is part of road prism)
- ~ 1,400 ft of wetland impact at outlet for clearing and riprapping- needed permit.

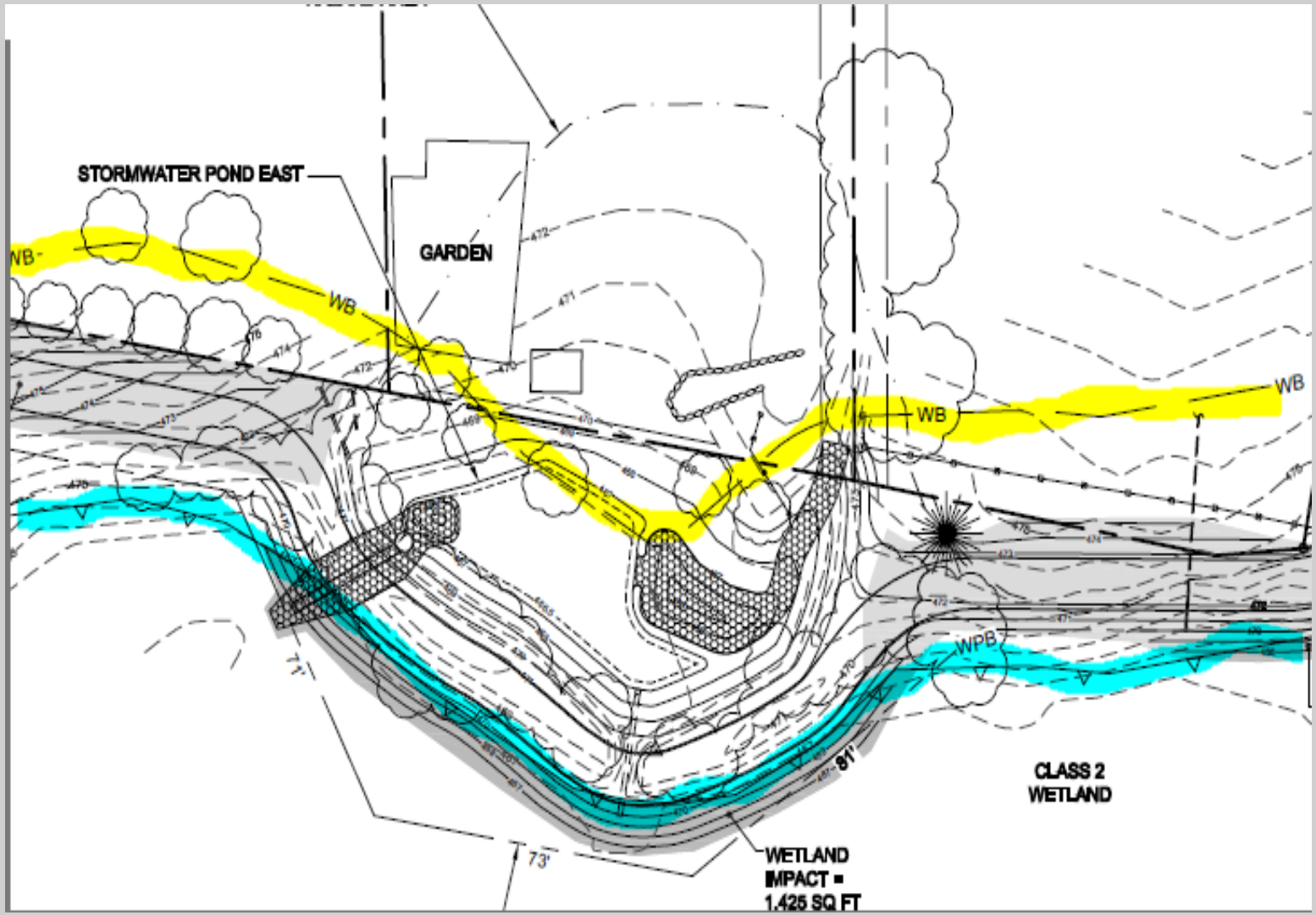
Storm Water Infrastructure

MS4, Flow Restoration Plans, SW Master Plans

- **Retrofit:** Upgrading or modifying existing infrastructure resulting in a larger footprint than previously existed may either be considered an Allowed Use or need a permit
  - May qualify for NRGP (registration). If impacts exceed thresholds, then IP needed.

- **Replacing/Maintaining:** In-kind replacement or maintenance of an existing system may qualify as an Allowed Use.

- **New:** May require a permit and, if so, alternatives need to be explored, get me involved early in the process
  - Retrofit new SW infrastructure for existing impervious surface- may qualify for the NRGP.
  - NEW DEVELOPMENT = PERMIT



- **Project:** Retrofit modification of existing stormwater pond to meet requirements of FRP
- Modifications on existing footprint not considered impacts
- New impacts to WL from access road and additional grading
- Permit required

Vermont Wetland Tools

Vermont Wetlands Program Homepage hosts:

http://www.watershedmanagement.vt.gov/wetlands.htm

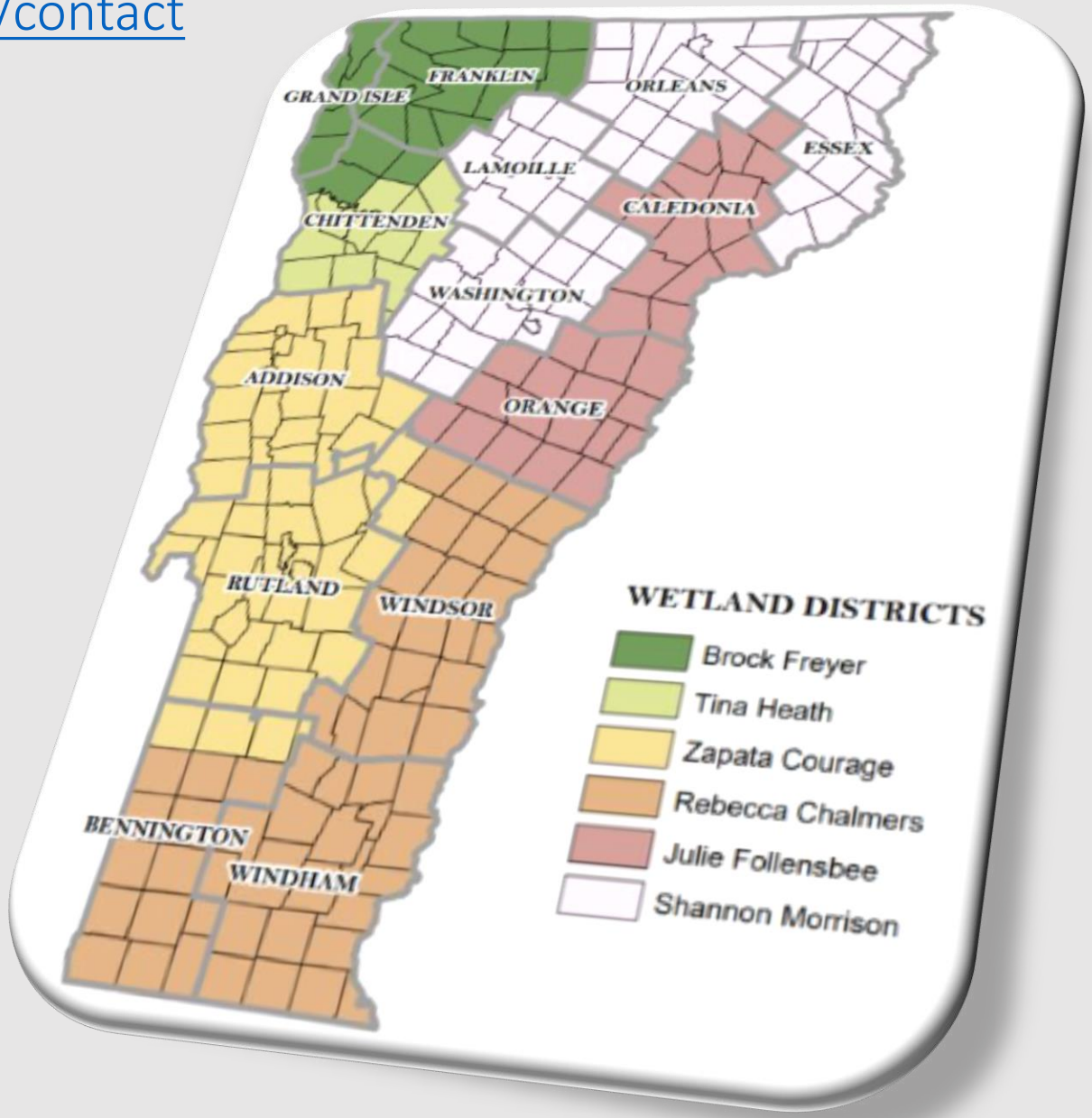
- VT Wetlands Inventory Map and Tutorial
- VT Wetland Inquiry Forms
- Regulatory Links VT Wetland Rules
  - Individual Permit
  - General Permit
  - Instructions
- Allowed Use and Procedural/Definition
- Guidance Documents

http://dec.vermont.gov/watershed/wetlands/contact

Contact your District Wetland Ecologist

Our Services are Free!

- Desktop reviews
- Site Visits
- Pre-application material review for a wetland permit
- Address violations in a cooperative manner
- Or just answer questions!



Activity	Wetlands Class II, 50 foot buffer		Shorelands 250 feet from mean water level	
	Allowed Use	**Permit**	**Exempt Activity**	**Permit**
Installing septic system		yes	yes	
Gravel foot trail		yes	yes (1 6-ft wide trail)	Greater than 6-ft wide, depends on where it is located
Clearing woody vegetation		yes	Vegetation Protection Standards	Yes, in excess of VPS
Trimming or removing dead trees	yes		yes	
Boardwalk/ observation deck	yes (follow BMP's)			yes
Raised flower beds		yes	yes	
Creating beach/swimming area		yes	If site is previously cleared and all beach area is above mean water level	Yes, only for public recreation area
Gazebo, wood/garden shed, patio		yes		yes