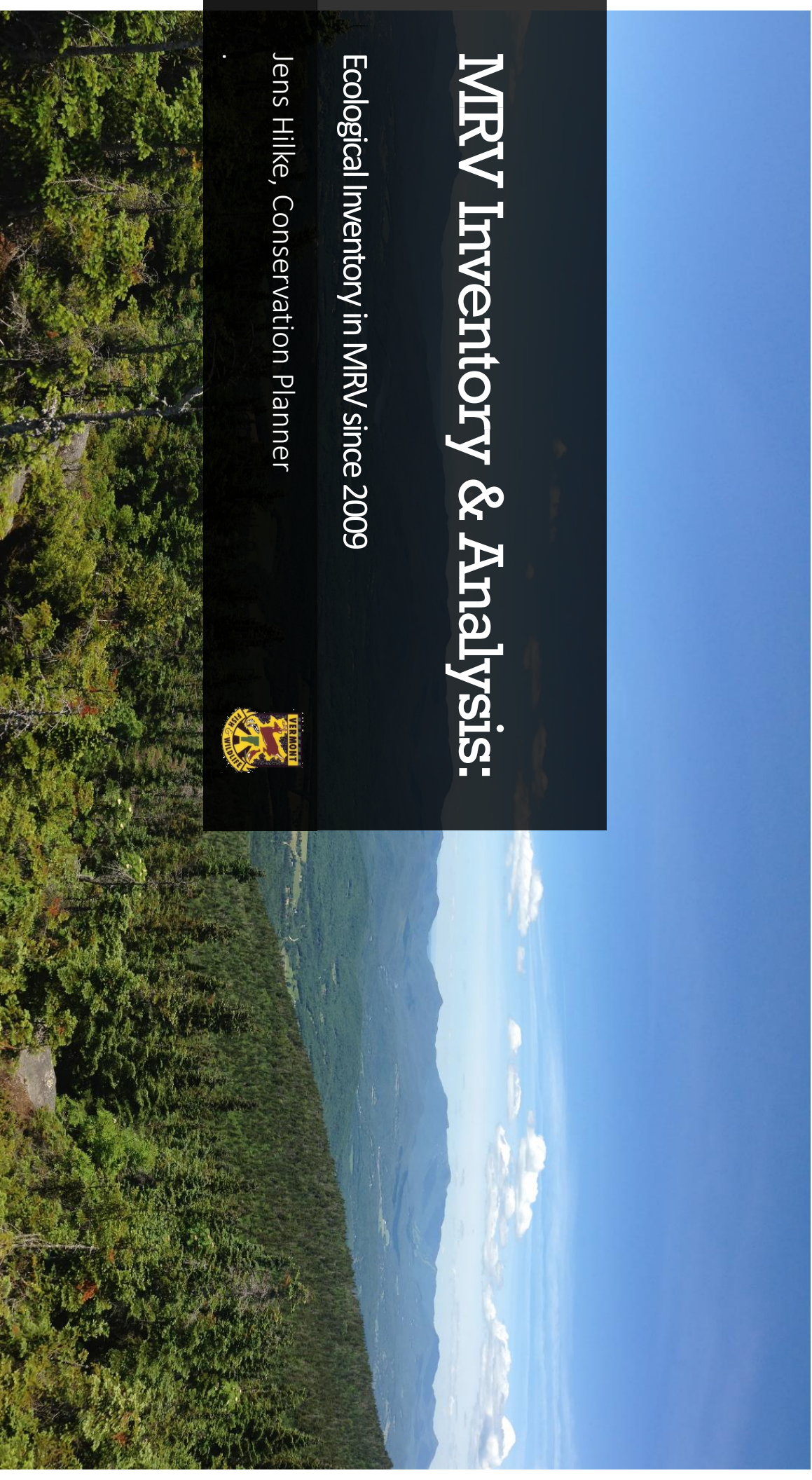


MRV Inventory & Analysis:

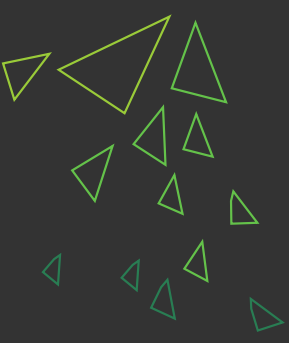
Ecological Inventory in MRV since 2009

Jens Hilke, Conservation Planner





About Us



Jens Hilke – Conservation Planner



The Vermont Fish & Wildlife Department

*The mission of the Vermont Fish & Wildlife Department is the
conservation of our fish, wildlife, plants and their habitats
for the people of Vermont*





What We Conserve



Natural Communities



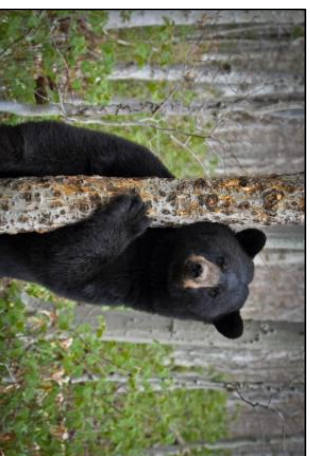
Fish



Habitat



Invertebrates



Wildlife



Plants





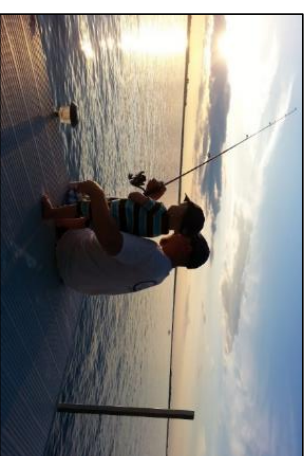
Who We Serve



Wildlife Watchers



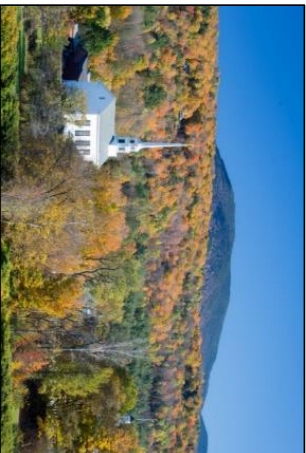
Future Generations



Anglers



Hunters and Trappers



Communities



Landowners





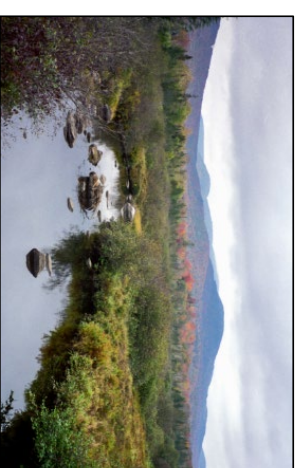
Community Wildlife Program



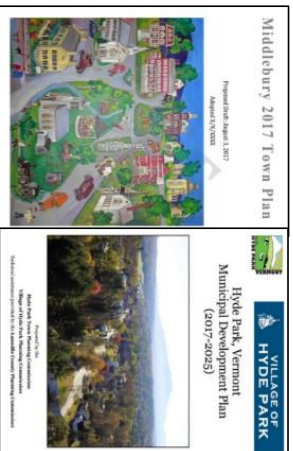
Presentations & Workshops



Support for Planning



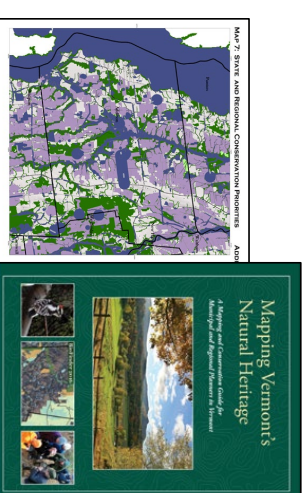
Support for Conservation



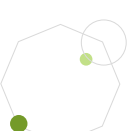
Connecting Communities
to Each Other

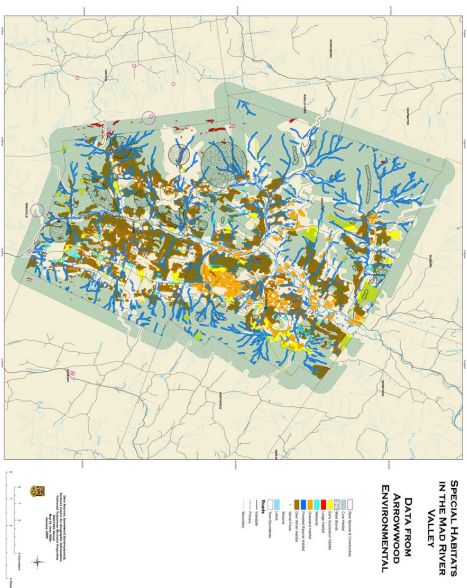
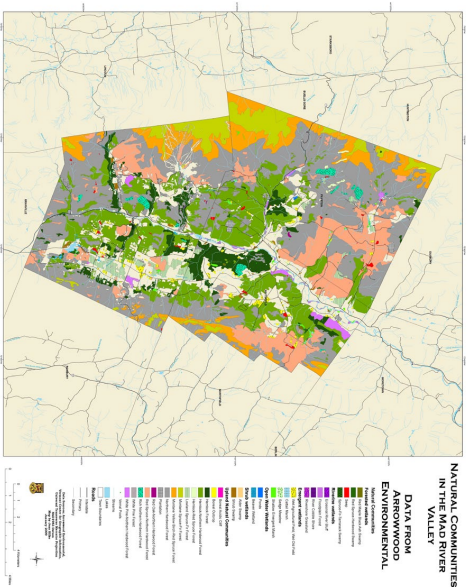
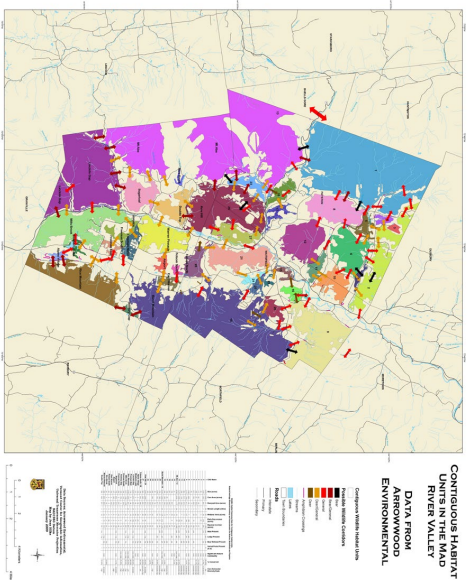


Understanding Ecological
and Community Context



Creation/Interpretation of
Resources

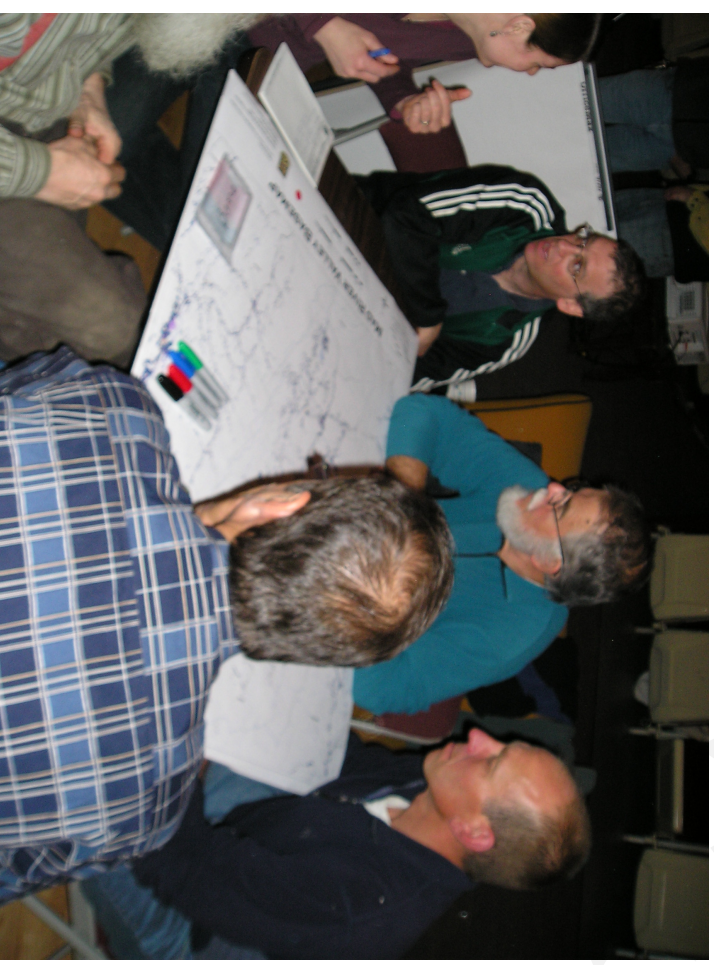




Arrowwood Inventory

Forest Wildlife & Communities Project 2010-2013

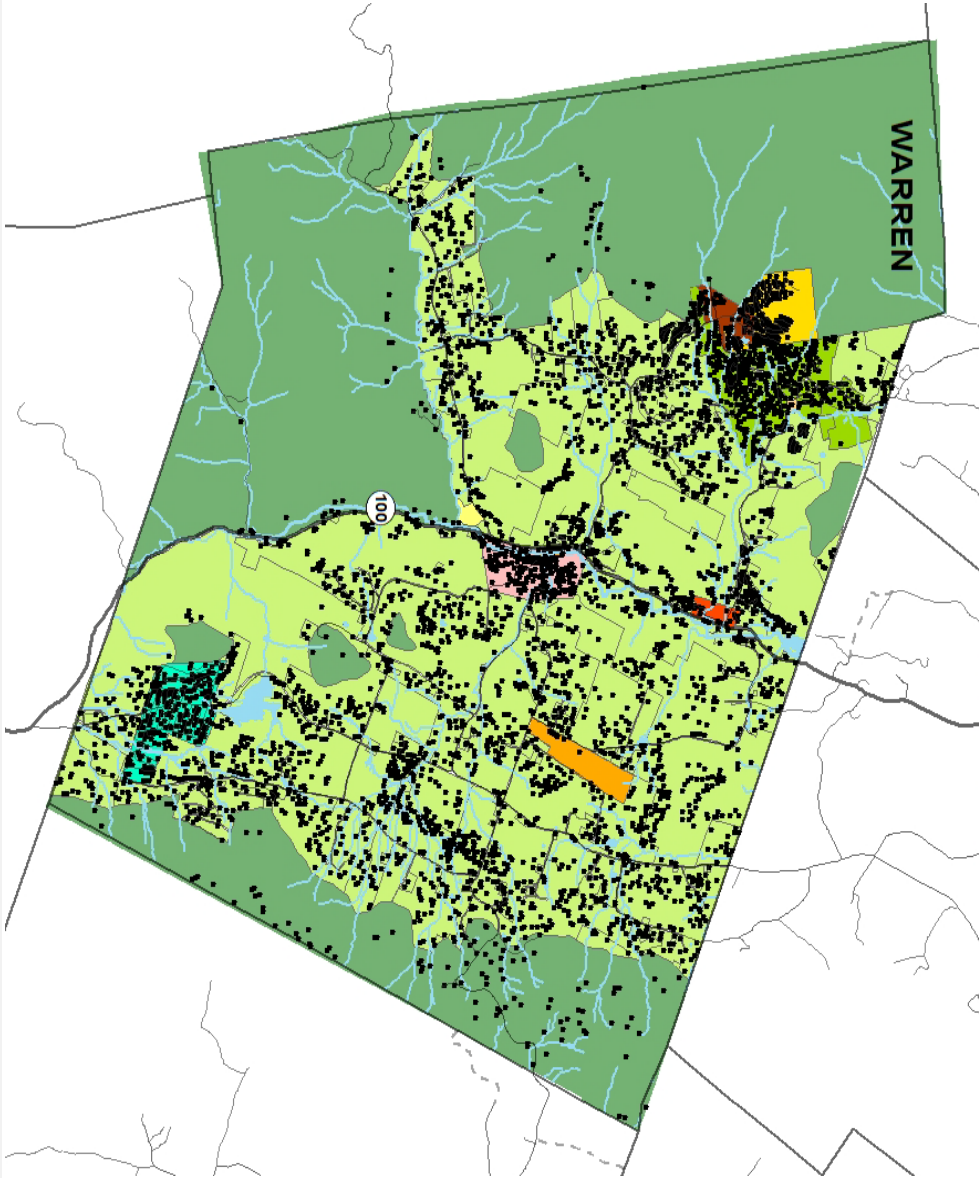
- Community Values mapping
- Buildout Analysis
- Ecological Conservation Focus Areas
- Tiered Ecological Priorities



Community Values



Maximum Buildout



Potential New Units

- Residential

Existing Buildings

- Commercial / Industrial
- Public
- Residential

Zoning

- Airport Commercial
- Access Road Commercial
- Bobbin Mill Commercial
- Forest Reserve
- German Flats Commercial
- Rural Residential
- Alpine Village
- Sugarbush Village Commercial
- Sugarbush Village Residential
- Vacation Residential
- Warren Village Commercial
- Warren Village Residential

| DISTRICT | POTUNIT |
|-------------------------------|---------|
| Airport Commercial | 0 |
| Access Road Commercial | 0 |
| Bobbin Mill Commercial | 0 |
| Forest Reserve | 147 |
| German Flats Commercial | 0 |
| Rural Residential | 2,459 |
| Alpine Village | 131 |
| Sugarbush Village Commercial | 0 |
| Sugarbush Village Residential | 470 |
| Vacation Residential | 374 |
| Warren Village Commercial | 0 |
| Warren Village Residential | 114 |
| Total | 3,695 |

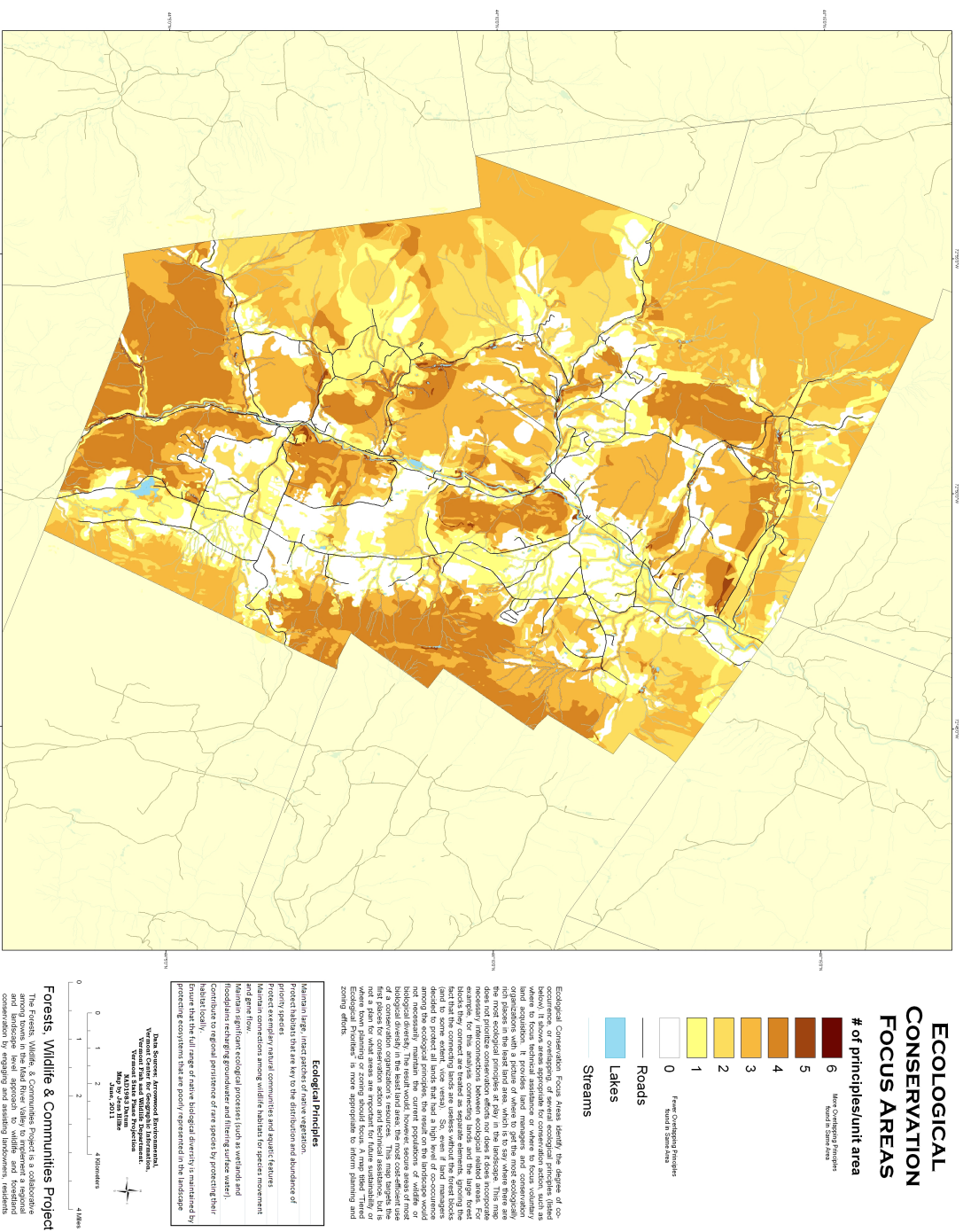


Seven Ecological Principles

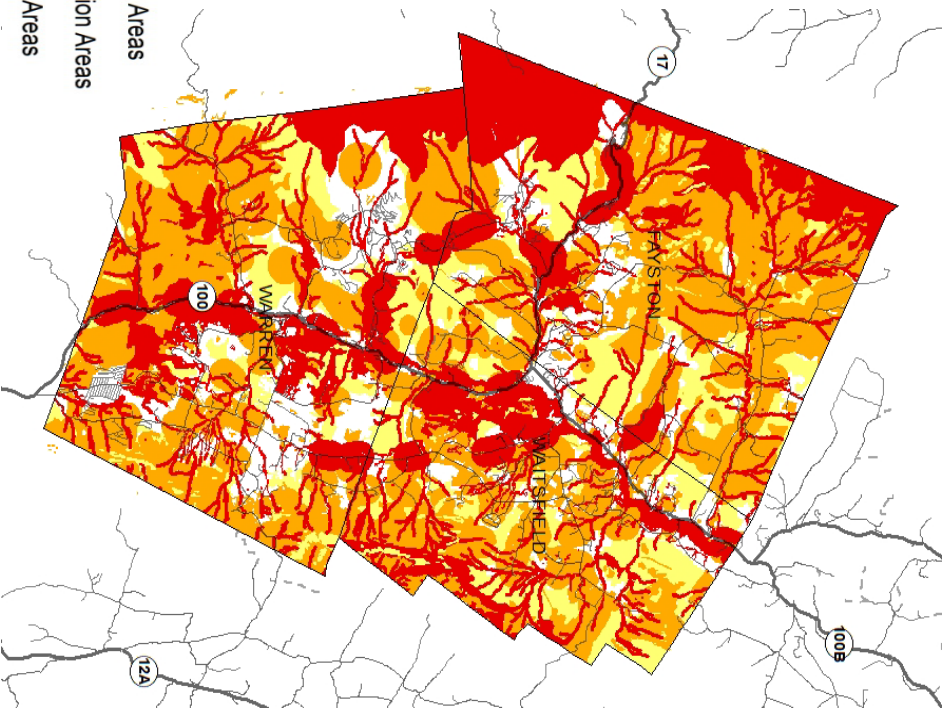
1. Maintain large, intact patches of native vegetation.
2. Protect habitats that are key to the distribution and abundance of priority species (identified in the 2006 Vermont Wildlife Action Plan).
3. Protect exemplary natural communities and aquatic features.
4. Maintain connections among wildlife habitats for species movement and gene flow.
5. Maintain significant ecological processes (such as wetlands and floodplains recharging groundwater and filtering surface water).
6. Contribute to regional persistence of rare species by protecting their habitat locally.
7. Ensure that the full range of native biological diversity is maintained by protecting ecosystems that are poorly represented in the landscape



Ecological Conservation Focus Areas



Tiered Ecological Priorities



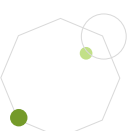
For Planning Commissions & DRBs to identify levels of ecological priorities

| | Acres | % of three town area | % of this conservation class NOT DEVELOPABLE under towns' current zoning and regulation |
|------------------------------|--------|----------------------|---|
| Primary Conservation Areas | 23,579 | 35.95% | 75.16% |
| Secondary Conservation Areas | 24,841 | 37.87% | 57.07% |
| Tertiary Conservation Areas | 9,100 | 13.87% | 62.29% |

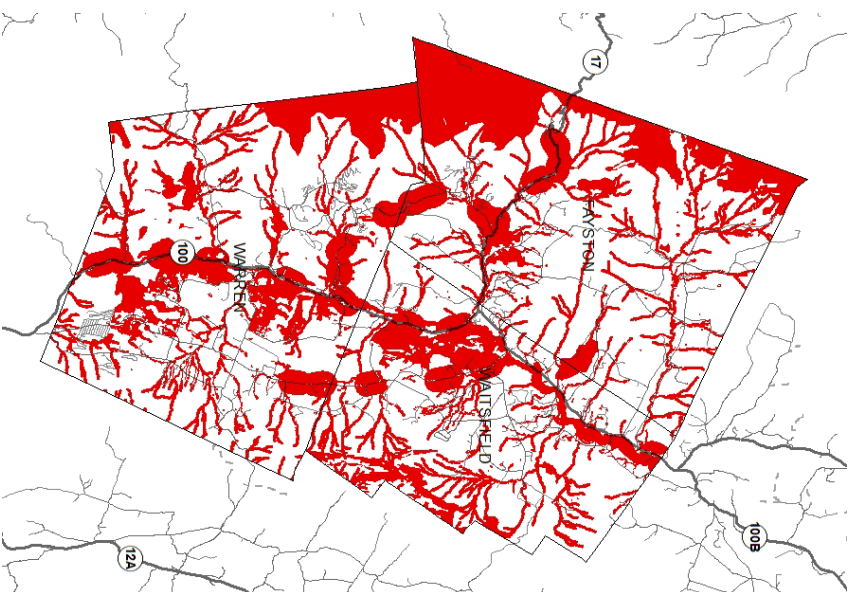
Primary Conservation Area

Primary Conservation Areas

- Rare, Threatened, & Endangered species element occurrences
- Wetlands & Streams (with 50' buffers)
- Bat hibernacula with 300' buffer
- All lands over 2700' for bicknells thrush
- Riparian habitats
- Vernal pool with 100' buffer
- FEMA 100yr floodplain
- Fluvial erosion hazard zone
- S1,S2 S3 natural communities and other locally significant Natural Communities that have a small or large patch size
- Road crossings that occur on rt 100, rt 17, German Flats Rd, East Warren Rd, and Sugarbush access rd
- All lands with natural cover (using 2006 CCAP) within 1/4 mile of the above significant road crossings



Primary Conservation Area



Primary Conservation Areas

- 35.95% of 3 town area
- 75.16% of PCA already protected under current zoning & regs



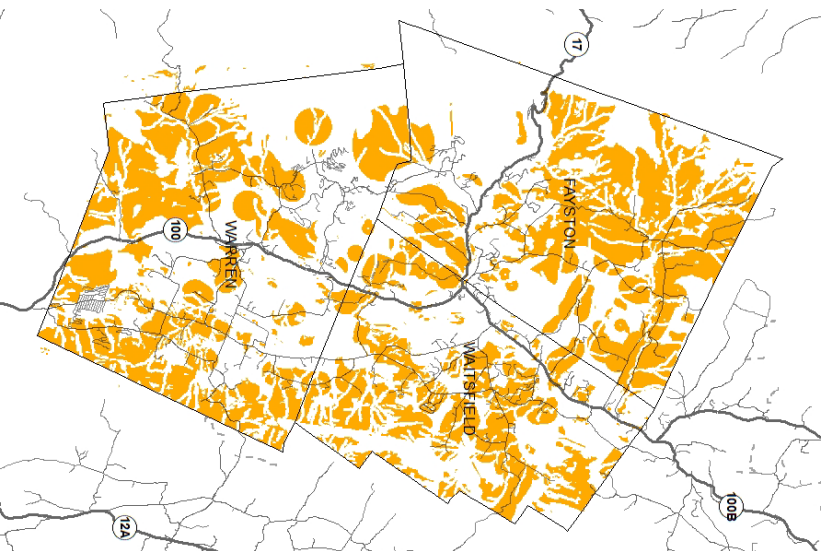
Secondary Conservation Areas

Secondary Conservation Areas (EXCLUDES ALL LANDS Covered in Primary Conservation Areas)

- Vernal pools with 600' buffer
- Early Successional Habitats (
 - Ledges
 - Grassland
- Locally significant natural communities and NOT included in No Touch (=S4 and S5 Natural communities or ones with Matrix patch size)
- Road crossings that are NOT included in No touch (= road crossings on smaller roads with less vehicle traffic)
- All lands with natural cover (using 2006 CCAP) within 1/4 mile of the above road crossings

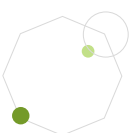


Secondary Conservation Areas

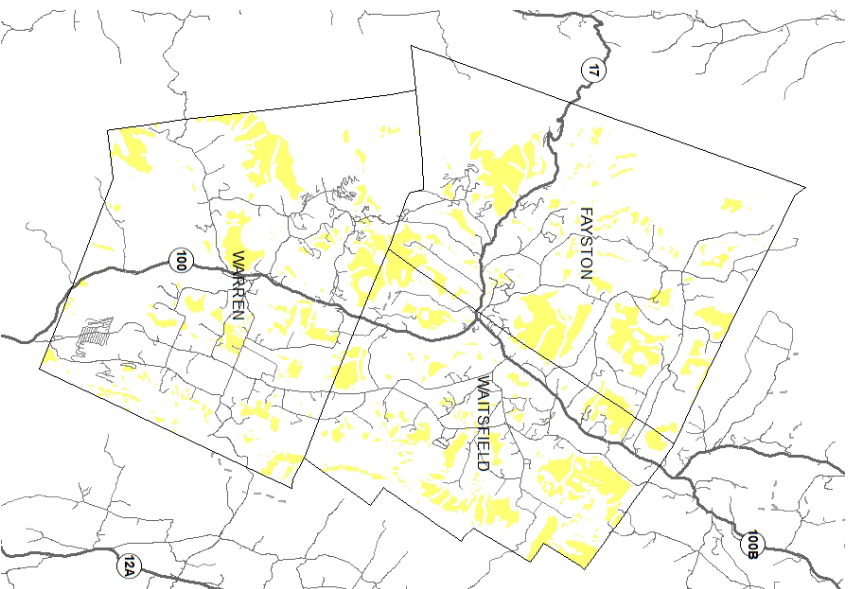


Secondary Conservation Areas

- 37 % of 3 town area
- 57% of SCA already protected under current zoning & regs



Tertiary Conservation Areas



Tertiary Conservation Areas

Tertiary Conservation Areas
(EXCLUDES ALL LANDS Covered in
Primary & Secondary Conservation
Areas)

- All land included in a
contiguous Habitat Unit (of any
size)
- 13 % of 3 town area
- 62% of TCA already protected under current
zoning & regs



Planning Provisions of Act 171

“manage Vermont’s forestlands so as to maintain and improve forest blocks and habitat connectors.”

Requires town and regional plans to:

- Identify important areas forest blocks and habitat connectors,
- plan for land development in those areas to minimize forest fragmentation



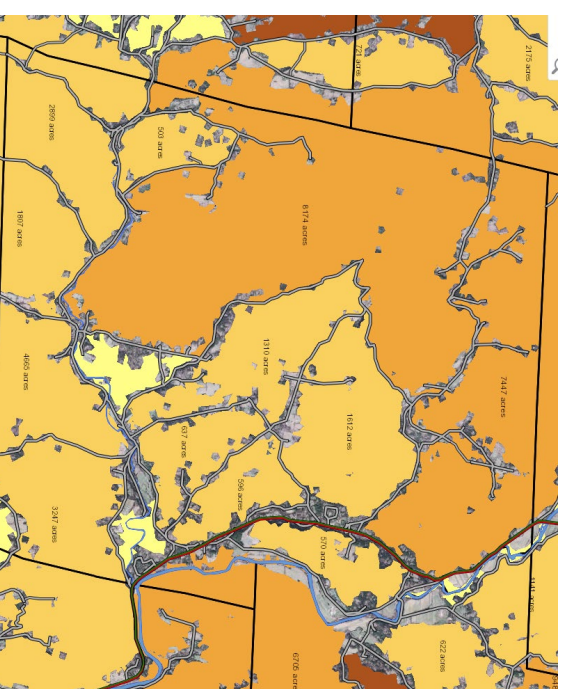
A. Blake Gardner

Map Required

- For municipalities that choose to plan, Chapter 117, (24 V.S.A. §4382), requires the plan include 12 elements, many related to natural resources. Municipal Plans adopted after January 1, 2018 must now include a map that identifies forest blocks and habitat connectors.

2 - A land use plan, which shall consist of a map and statement of present and prospective land uses, that:

(A) Indicates those areas proposed for forests, recreation, agriculture (using the agricultural lands identification process established in 6 V.S.A. § 8), residence, commerce, industry, public and semi-public uses, and open spaces, areas reserved for flood plain, and areas identified by the State, the regional planning commission, or the municipality that require special consideration for aquifer protection; for wetland protection; for the maintenance of forest blocks, wildlife habitat, and habitat connectors; or for other conservation purposes.

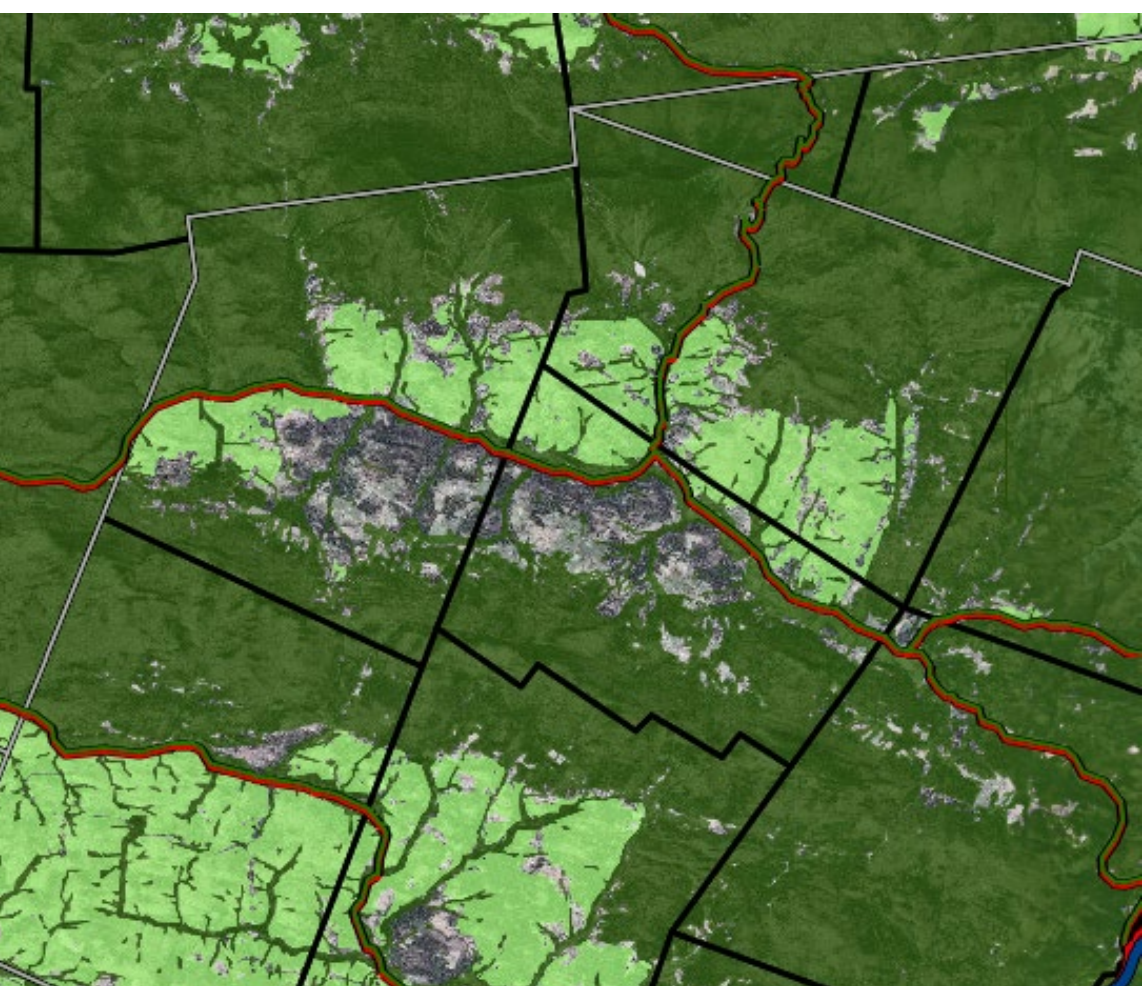


Vermont Conservation Design

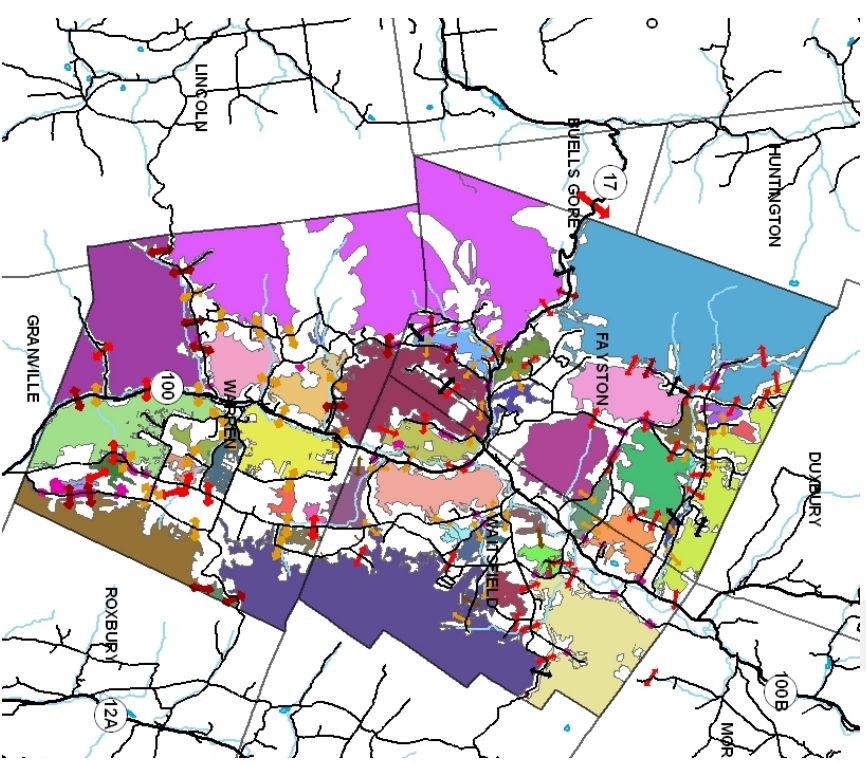
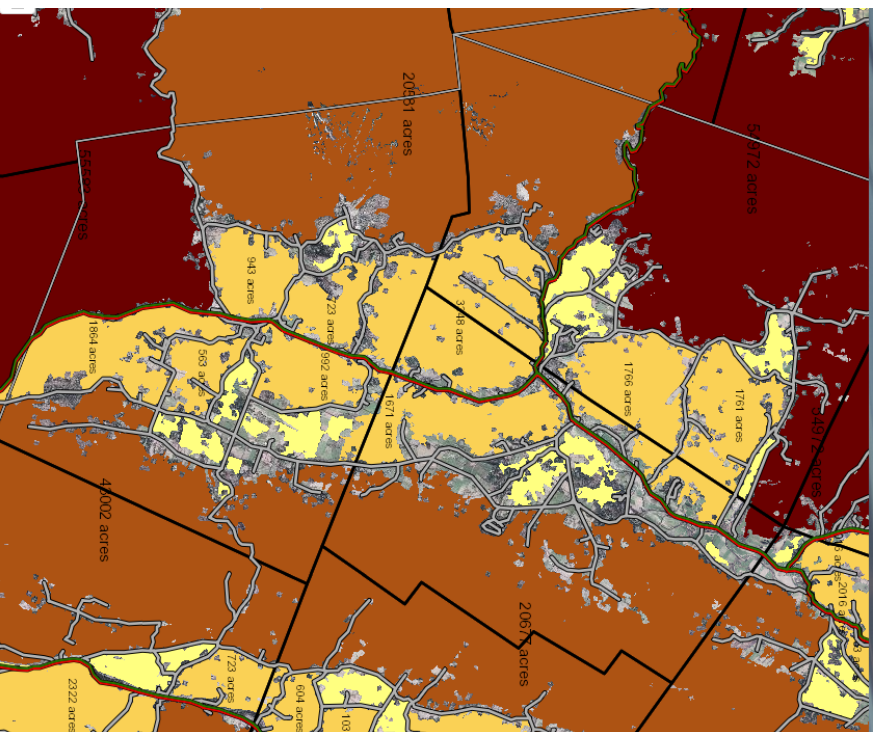


biofinder.vt.gov/

Accessible to everyone!



Forest Blocks



2011 Vermont Fish & Wildlife Department Habitat Blocks

2008/2009 Arrowwood Environmental Continuous Habitat Units

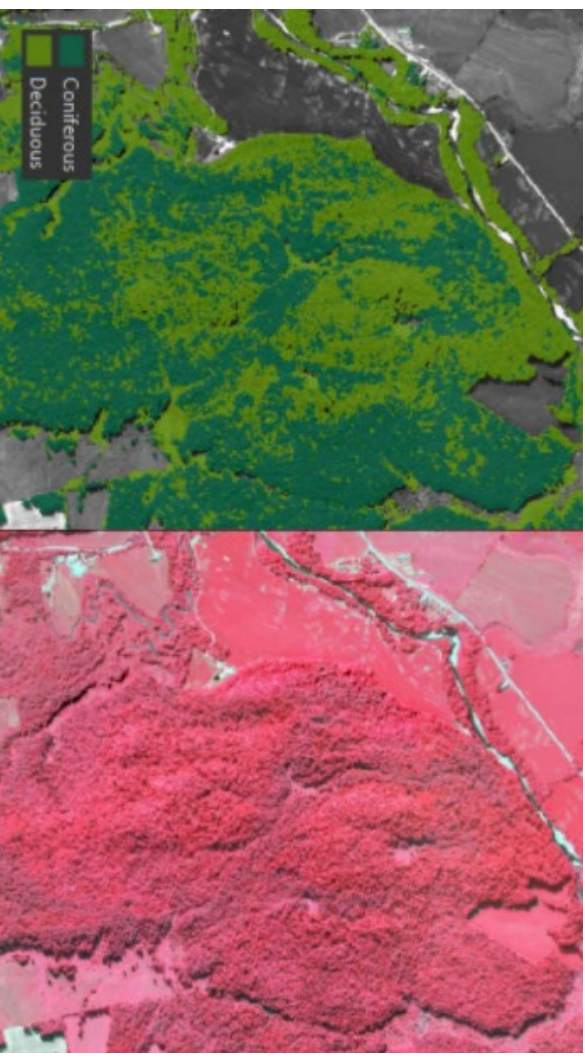


More Recent Data

Flood Resilience



2020 Forest Cover

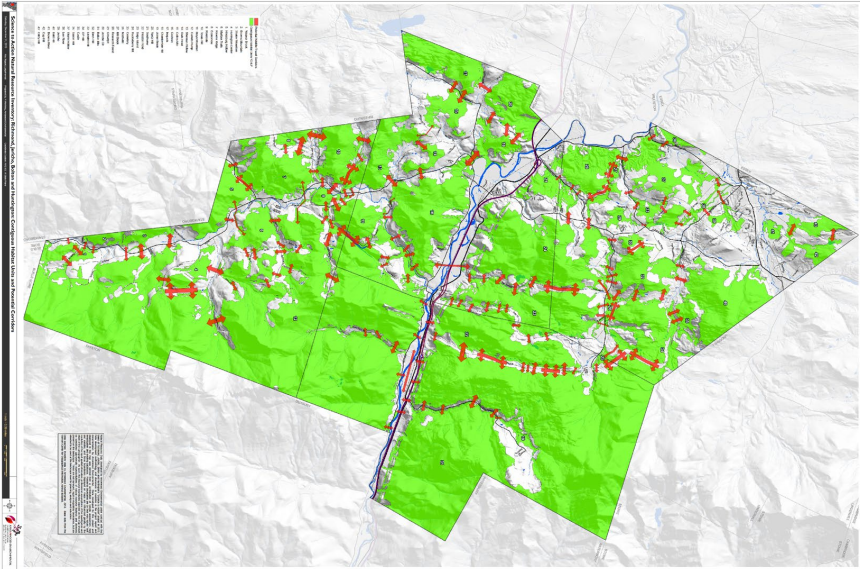


Warren follow-up Inventories

- 2014 Warren Wildlife Corridor Analysis
 - 5 sites - tracking within ROW and Game Cameras
- 2015-2017 Warren Corridor Conservation Area
 - 2016 Corridor Inventory & Assessment
 - 2017 Wildlife Movement Patterns & use Recommendations (Top Gas Parcel)
- 2018 Wildlife Corridor Analysis
 - Three additional Crossing areas
- 2019 Corridor Regulation Research

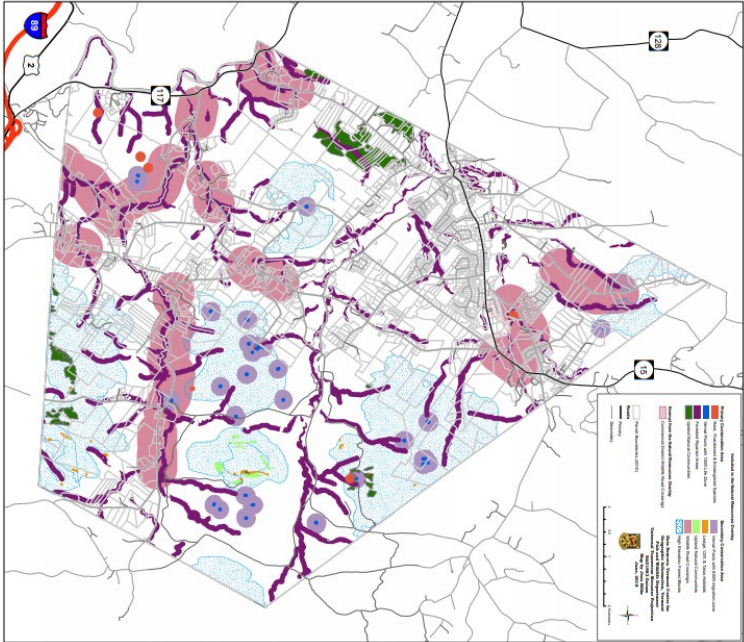


Jericho Overlay District



2014 Arrowwood Inventory

JERICHOS NATURAL RESOURCES OVERLAY DISTRICT 2018



2018 NR Overlay District





Actionable Information

- What we can act on now
 - forest policies, connectivity as a heightened level of review
 - Integration of FWC data and Vermont Conservation Design into planning efforts currently underway
 - Where we need more science on connectivity if we want more regulatory ability
 - More info on corridors and crossings in Fayston & Waitsfield
 - LIDAR based Forest Canopy
 - Valley-wide connectivity vision
 - Get all that data for Moretown/Duxbury as well
 - Assessment of where we're at in planning process (across all the towns)



Contact Us

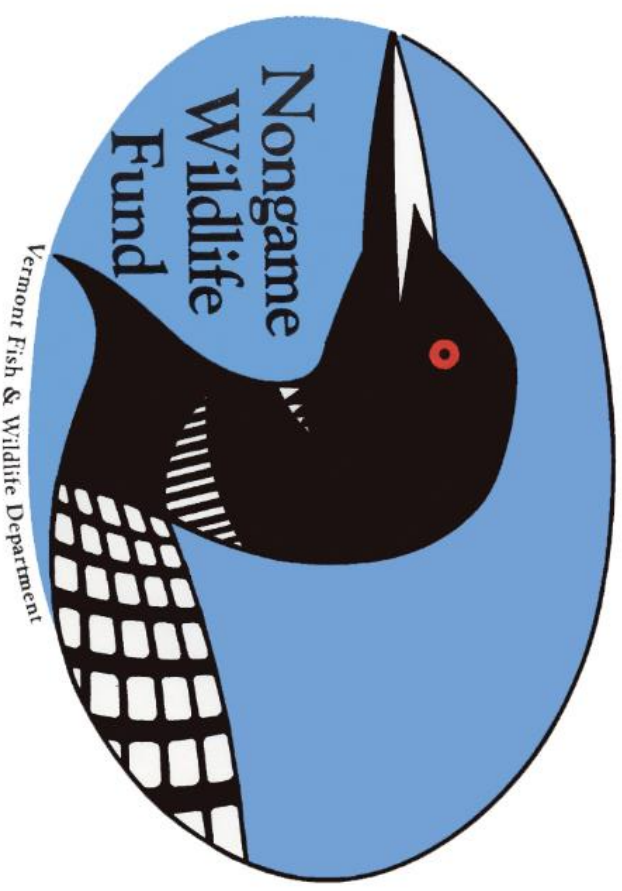
Jens.Hilke@Vermont.gov



How you can support conservation in Vermont



Vermont Habitat Stamp



Nongame Wildlife Fund

<http://vtfishandwildlife.com/donate>



Thank You

