

Vermont's Natural Communities



**VERMONT CENTER
FOR ECOSTUDIES**

Vermont Center for Ecostudies advances conservation of wildlife across the Americas through research, monitoring, and citizen engagement. We deliver the science people need to make good decisions for wildlife.



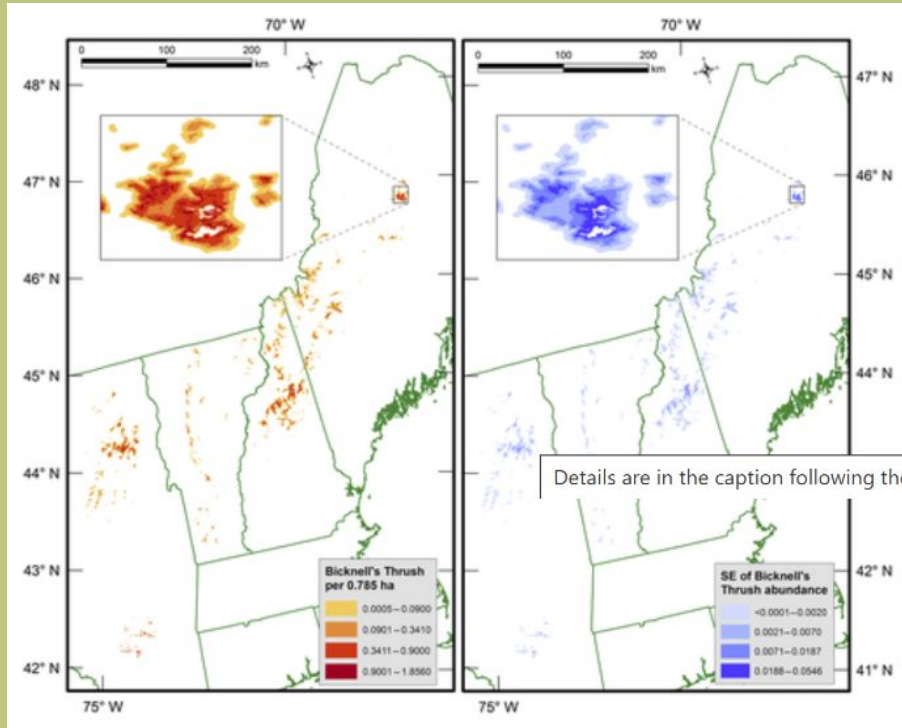
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Director of Conservation Science
Amber Jones
Biologist

About VCE

VCE advances wildlife conservation across the Americas through research, monitoring, and community engagement. We envision a society that sustains healthy ecosystems through science-based decision making.



Examples of VCE work with natural communities



Rare Species

- Uncommon
- Scarce
- Infrequently encountered



- Limited geographic range
- Small population size
- Specific habitat requirements

How rare species are tracked:

	Global	National	Subnational
Critically Imperiled	G1	N1	S1
Imperiled	G2	N2	S2
Vulnerable	G3	N3	S3
Apparently Secure	G4	N4	S4
Secure	G5	N5	S5

How do we protect rare species?

- protect habitat
- reduce threats
- support legislation



Protecting and Conserving Rare Species

Vermont Loon Conservation Project

Management

Taken off the
endangered
species list in
2005

Monitoring

Public
Outreach



Over 100
breeding pairs in
Vermont up from
7 in ~1987

Types of rarity

-Habitat Range



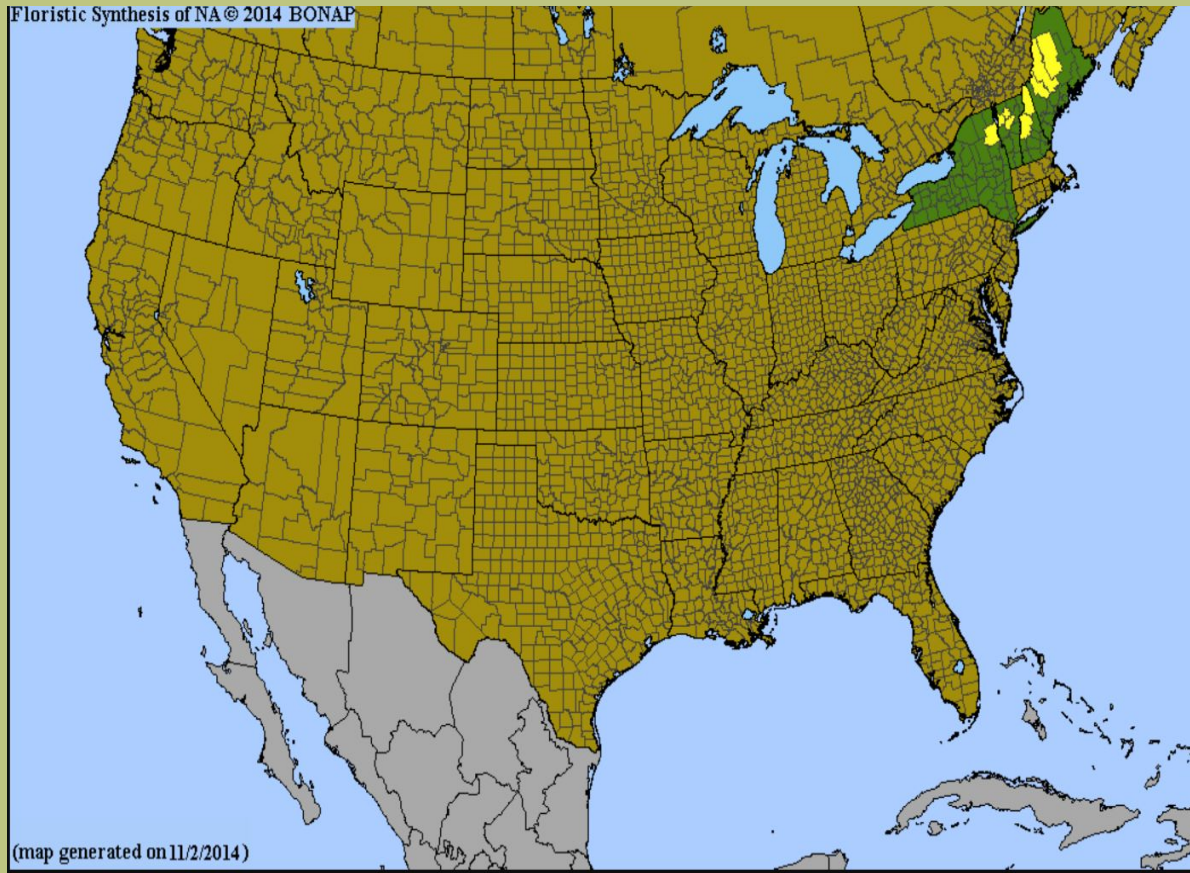
-Geographic Range



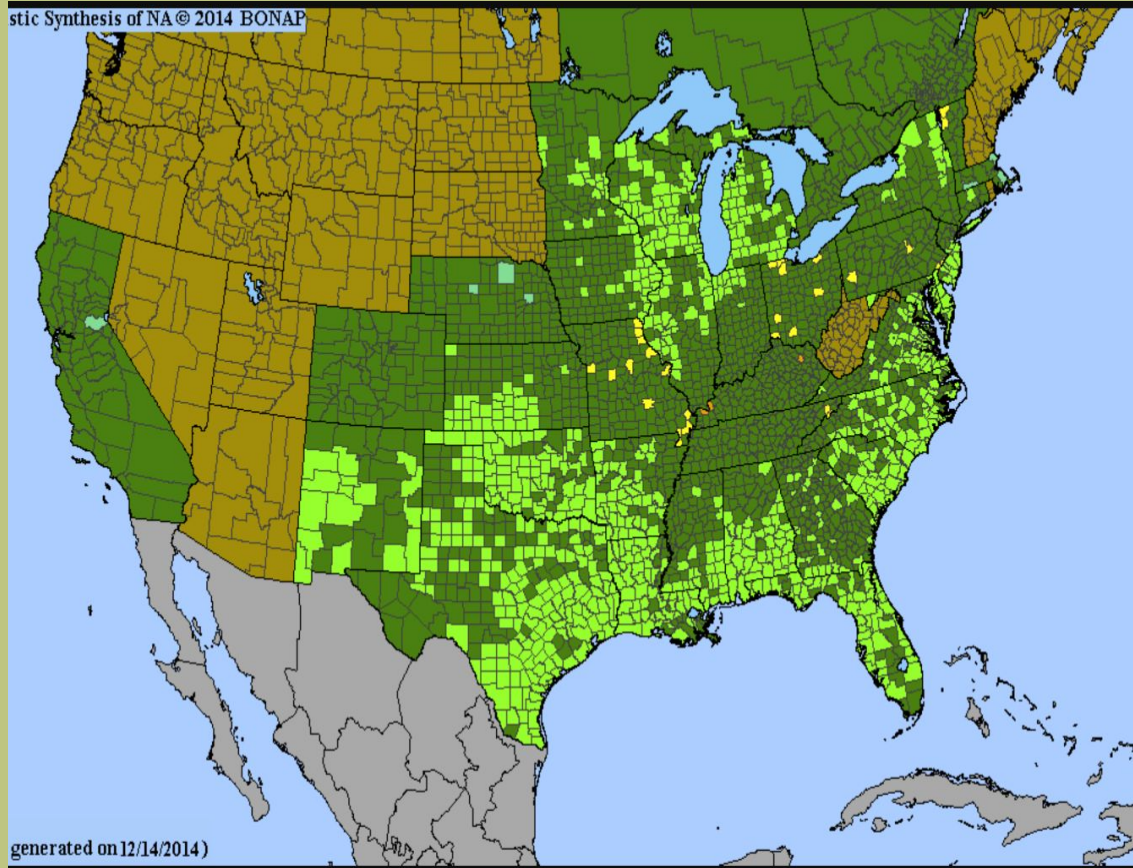
-Population Size



Nabalus boottii- Boot's Rattlesnake-root S1 G2



Monarda punctata- Dotted Horsemint S1 G5



97 Different Natural Community Types in Vermont

Natural Communities

are an assemblage of plants
and animals that repeats
across the landscape
wherever similar
environmental conditions
occur.

Upland Shores



Open Peatland



Cliffs and Talus



Open Wetlands

Vernal Pools



Northern Hardwood
Forests



Natural Communities are Communities!



Natural Community Concept

- A way to describe species assemblages
- Covers both uplands and wetlands
- A tool for land management and conservation planning

Natural Communities

Generalist



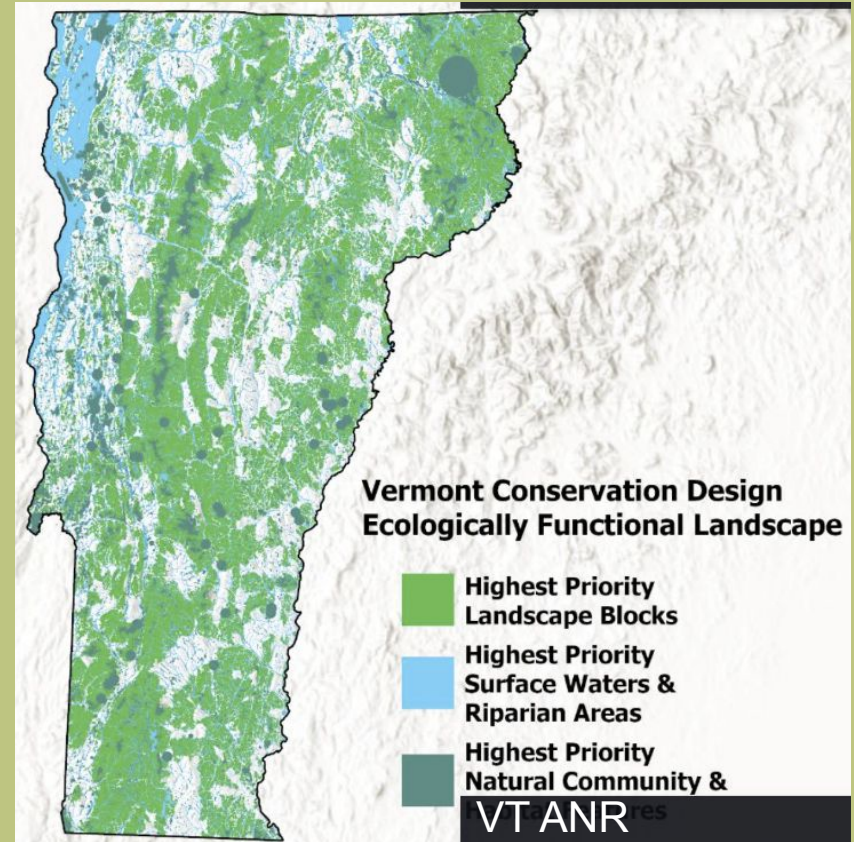
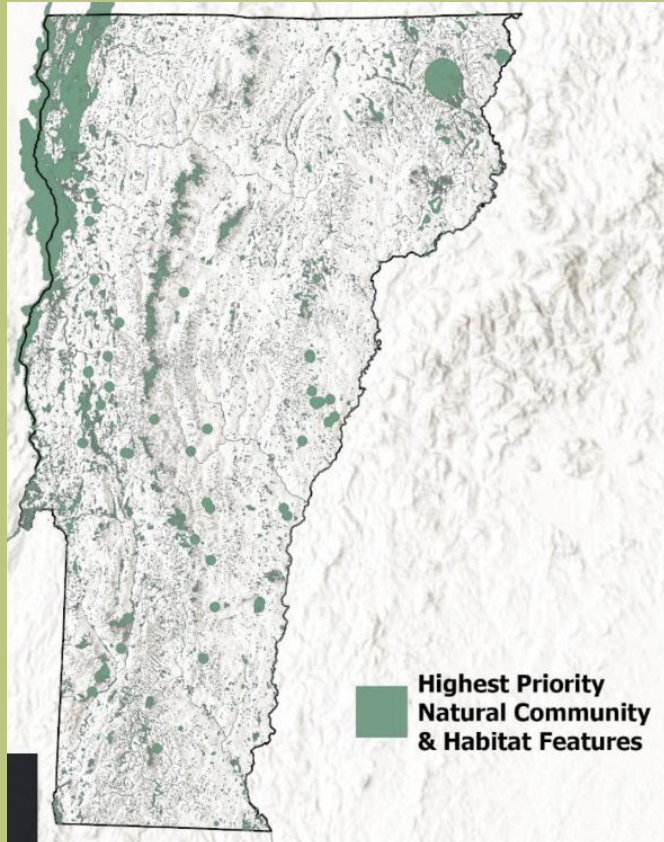
Can occur in many different areas

Specialist



Needs specific physical,
chemical, and biological
conditions to survive

Natural Communities as a Conservation Strategy



Common and Rare Natural Communities

~ 28

S4 and above Natural Communities and variants

Northern Hardwood Forest



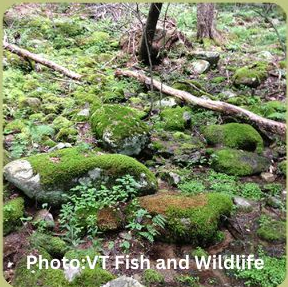
S5

Hemlock-Northern Hardwood Forest



S5

Woodland Seep



S4

Alder Swamp



S5

Sand Dune



S1

Subalpine Krummholz



S1

Rich Fen

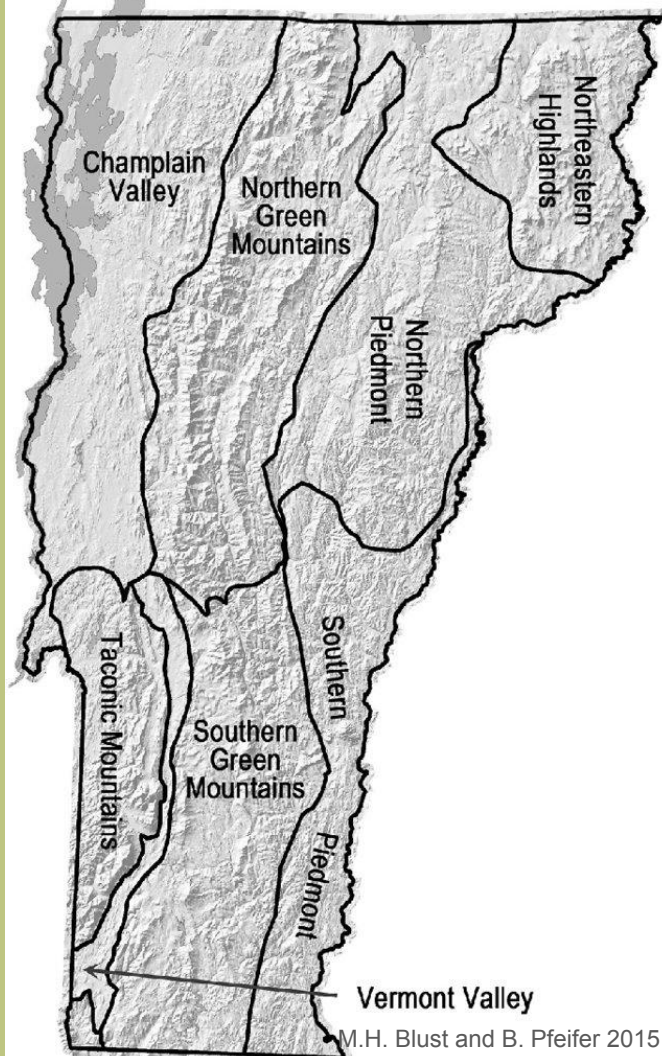


S2

Alpine Meadow



S1



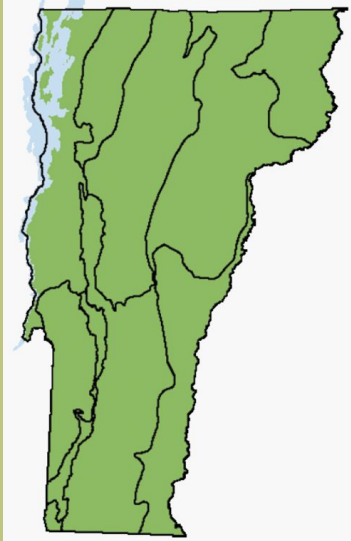
M.H. Blust and B. Pfeifer 2015

Biophysical Regions of Vermont

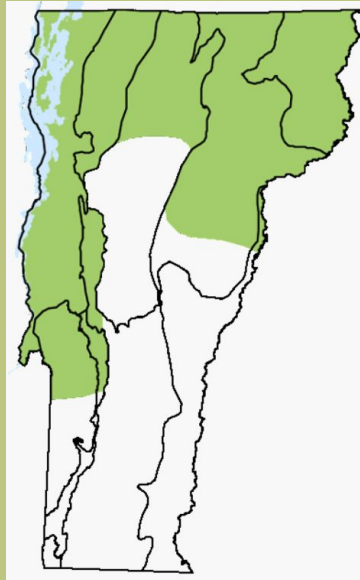
9 distinct regions based on:

- Elevation
- Climate
- Geology
- Topography
- Hydrology
- Land-use history
- Vegetation

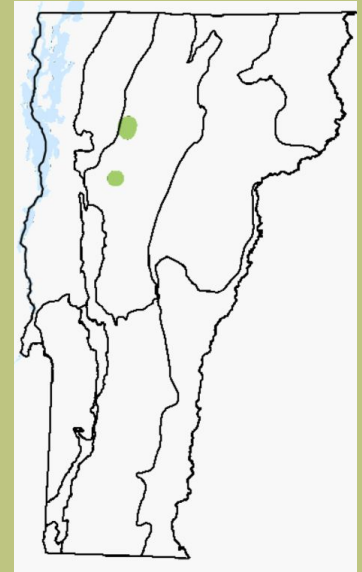
Northern Hardwood Forest
S5



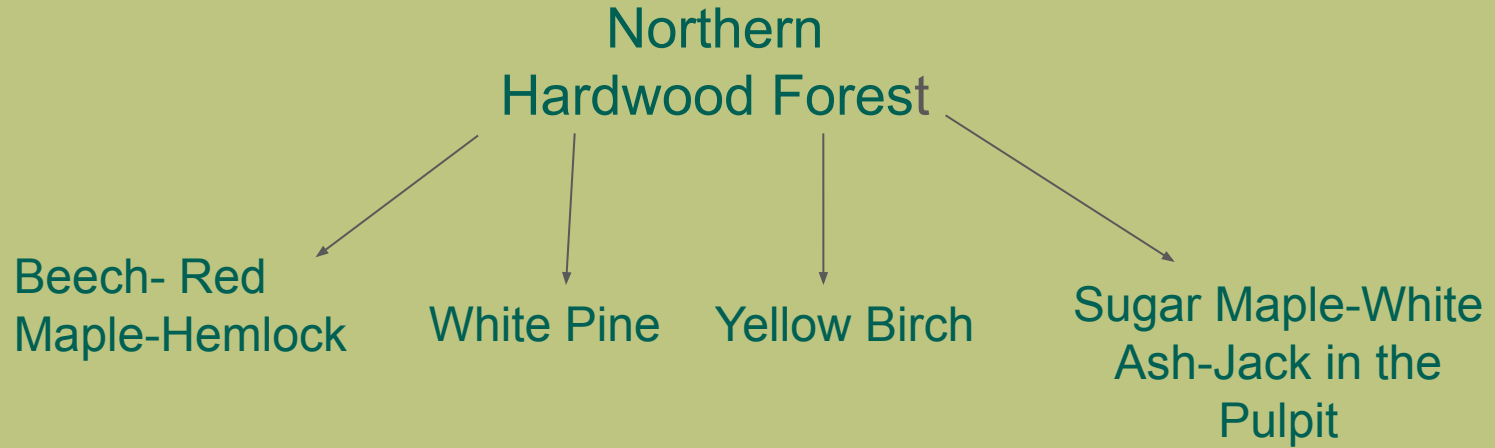
Northern White Cedar Swamp
S3



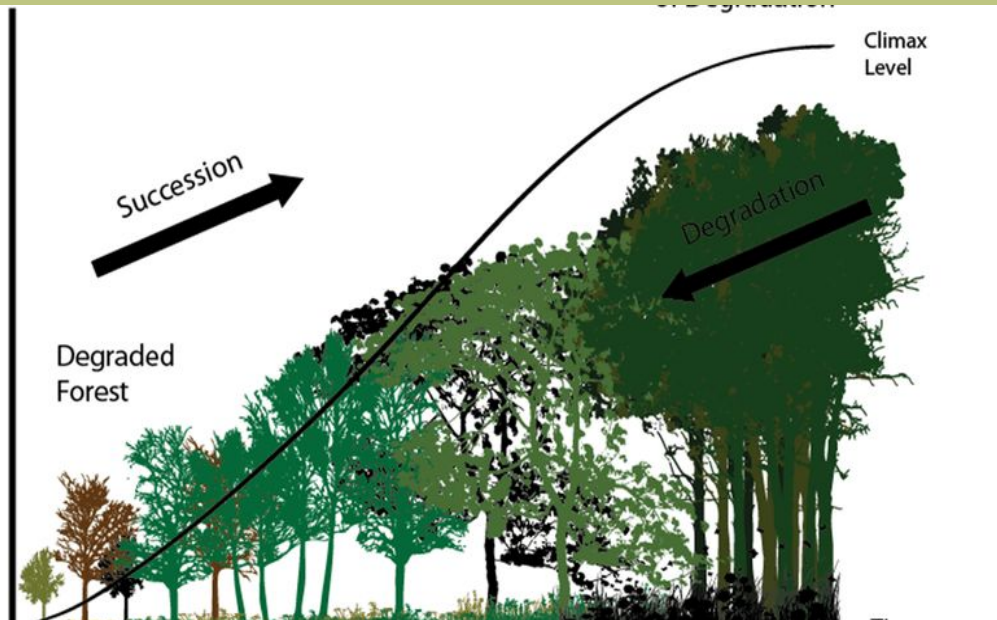
Alpine Meadow
S1



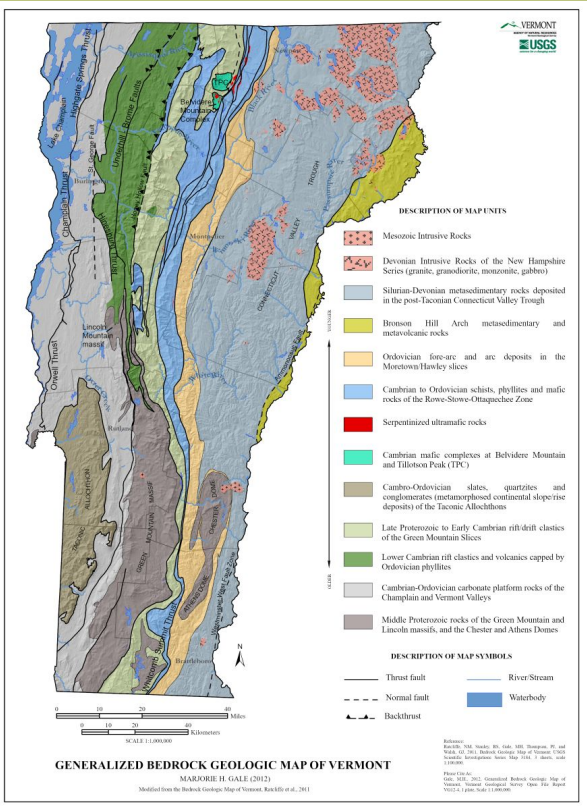
Natural Community Variants



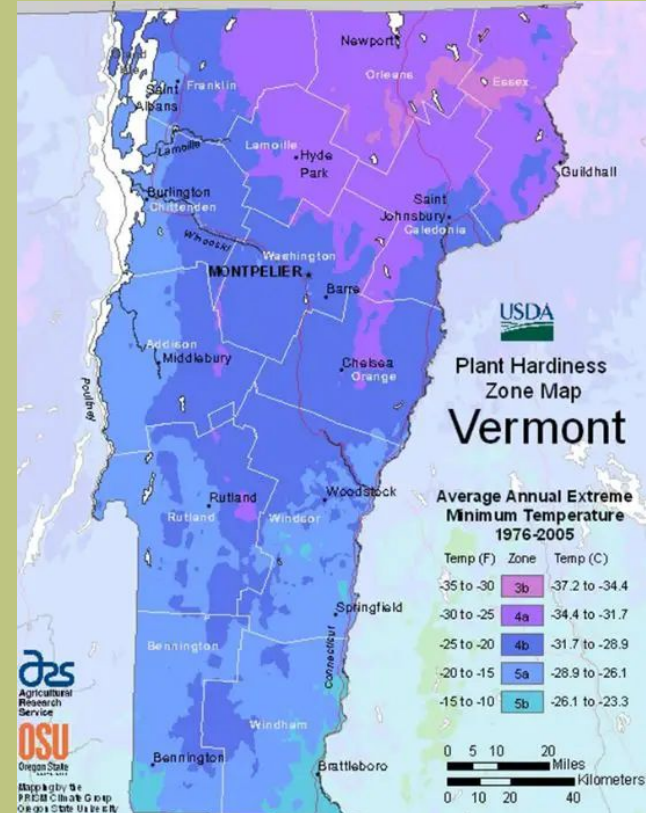
How do natural communities change over time?



What can natural communities tell us



© 2017 Captured by Kala



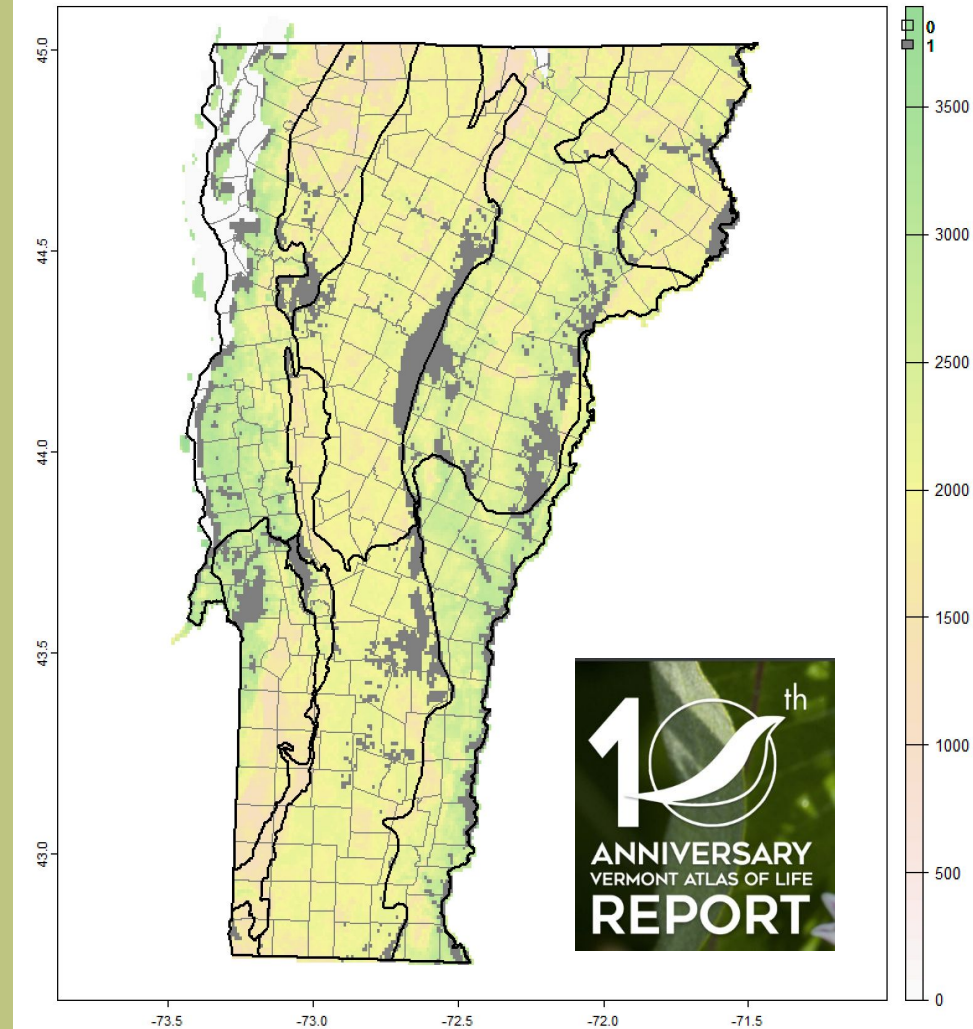
Vermont Rare Species and Natural Community Threats

- Climate Change
- Habitat loss or fragmentation
- Invasive species
- Pollution

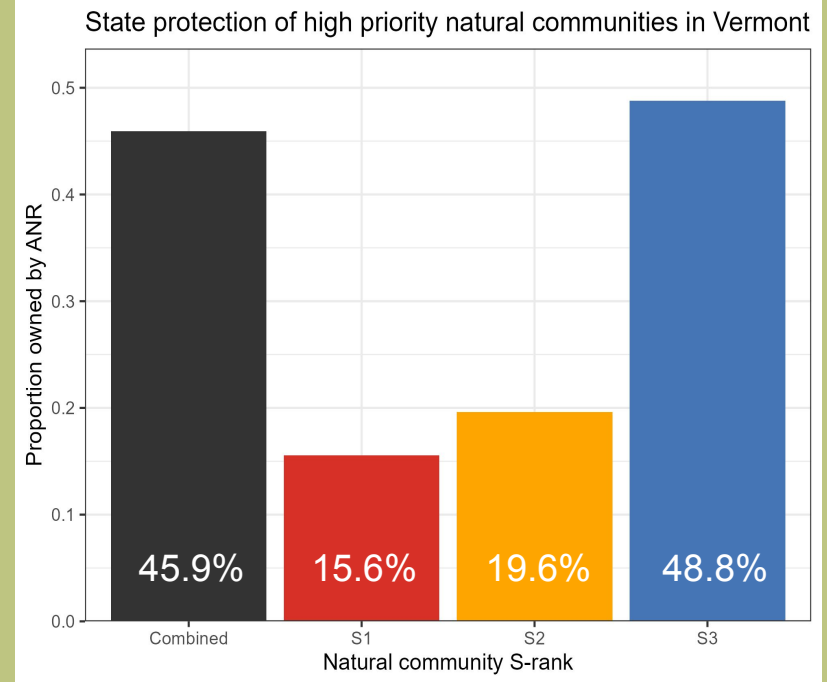
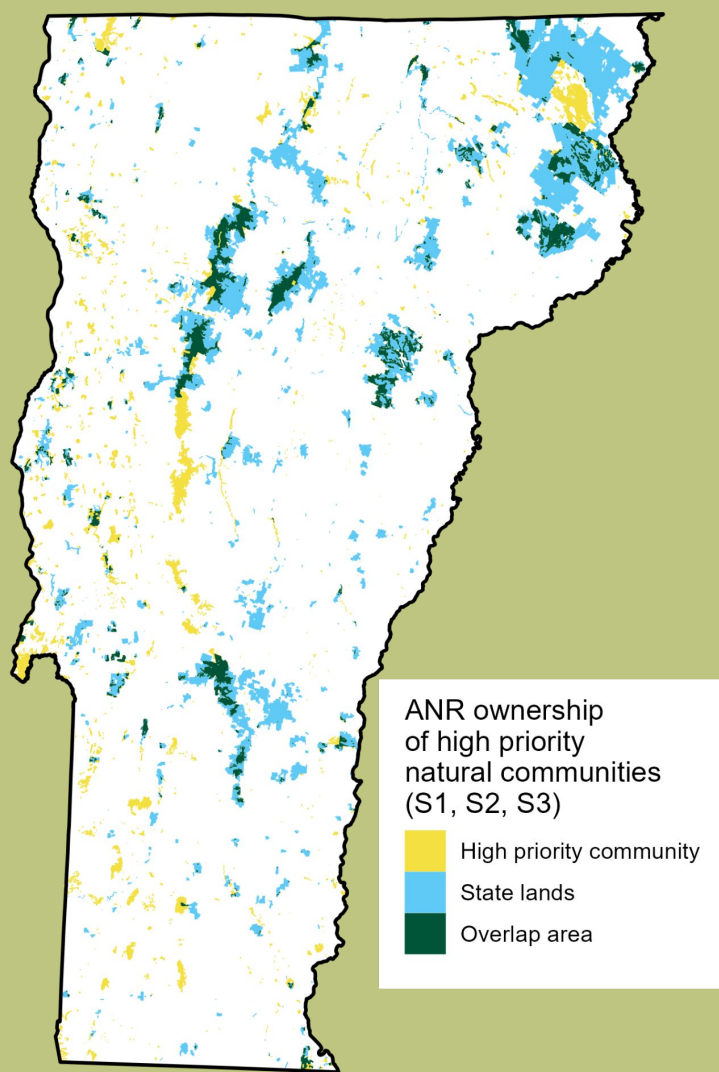


By 2100:

- current conservation lands will protect approximately 11% of species' ranges, down from 13% today.



Highest Priority Natural Communities on State Owned Land

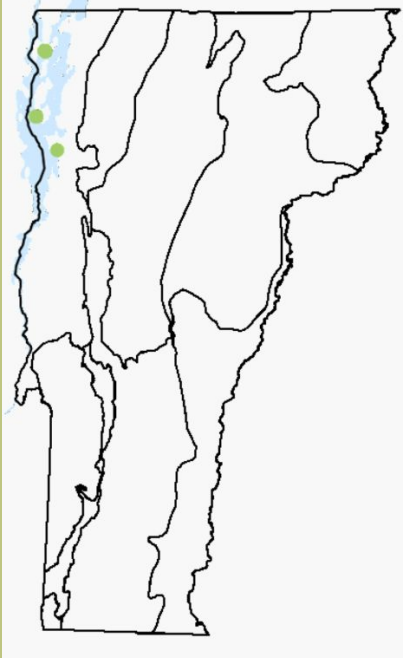


19.7% of ANR owned lands are S1-S3 natural communities.

<u>Biophysical Region</u>	<u>Old Growth VCD Target</u>	<u>Highest Priority Natural Communities on ANR Land</u>	<u>Percent of Target</u>
Northern Green Mountains	95,000 acres	41,024 acres	43.2%
Northeastern Highlands	59,000 acres	30,954 acres	52.5%
Northern Piedmont	78,000 acres	12,824 acres	16.4%
Southern Green Mountains	91,000 acres	11,020 acres	12.1%
Champlain Valley	15,000 acres	6,885 acres	46%
Taconic Mountains	33,000 acres	2,408 acres	7.3%
Southern Piedmont	31,000 acres	2,357	7.6%
Champlain Hills	13,000 acres	581 acres	4.5%
Vermont Valley	4,000 acres	116 acres	2.9%

Interesting Natural Communities in VT

Sand Dune S1

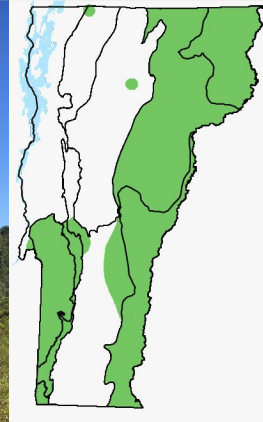
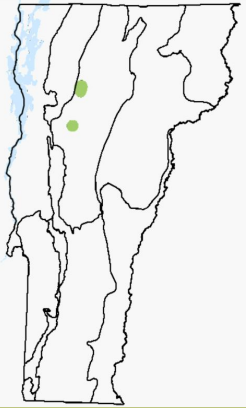


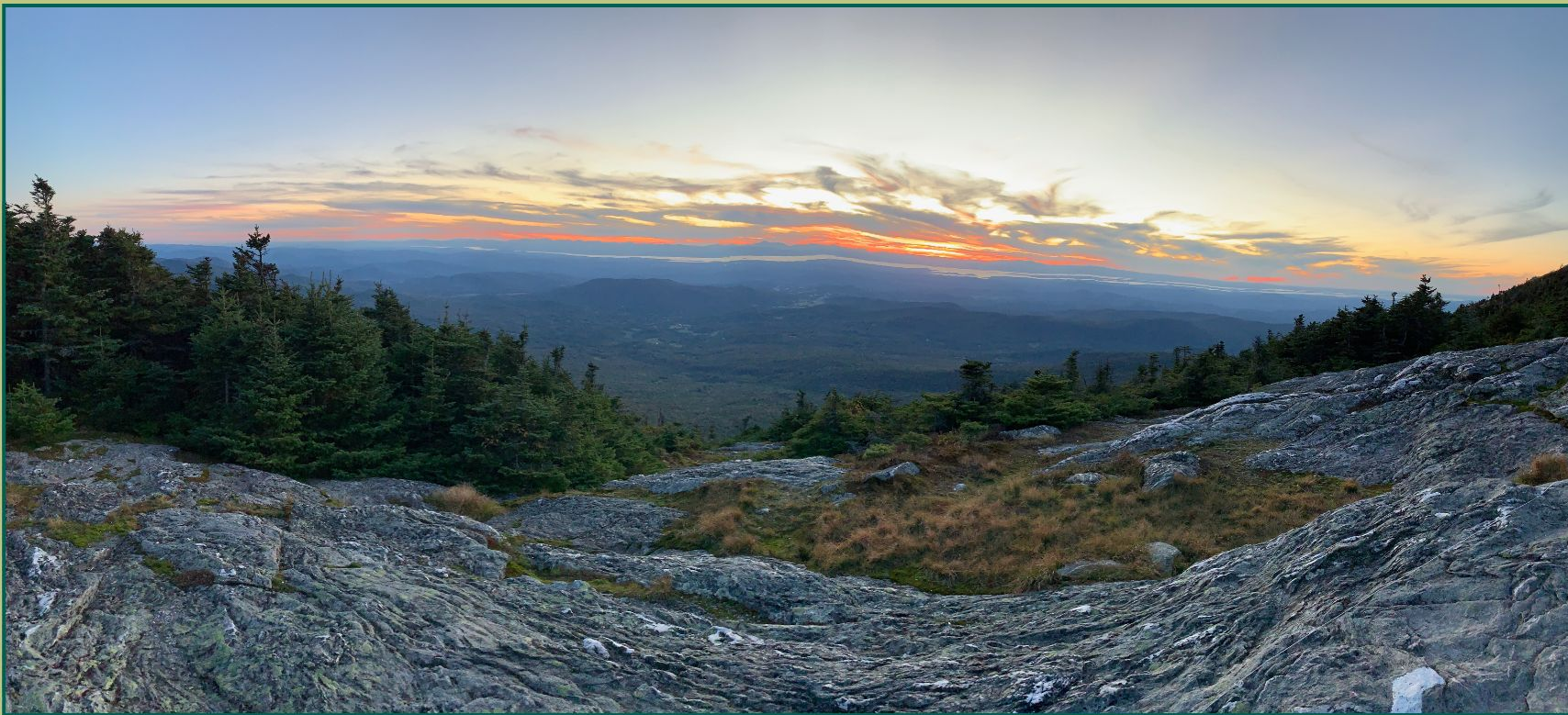
Pitch Pine Oak Heath Summit S1



Interesting Natural Communities in VT

Alpine Meadow S1

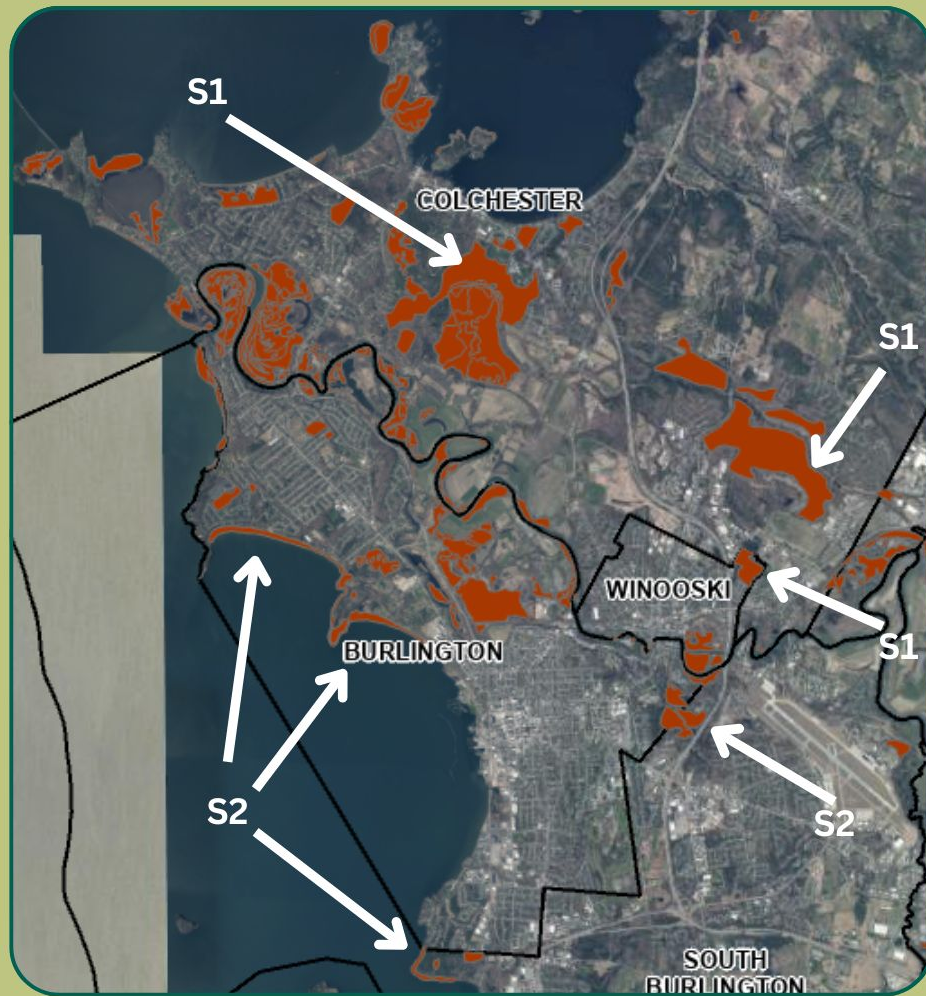
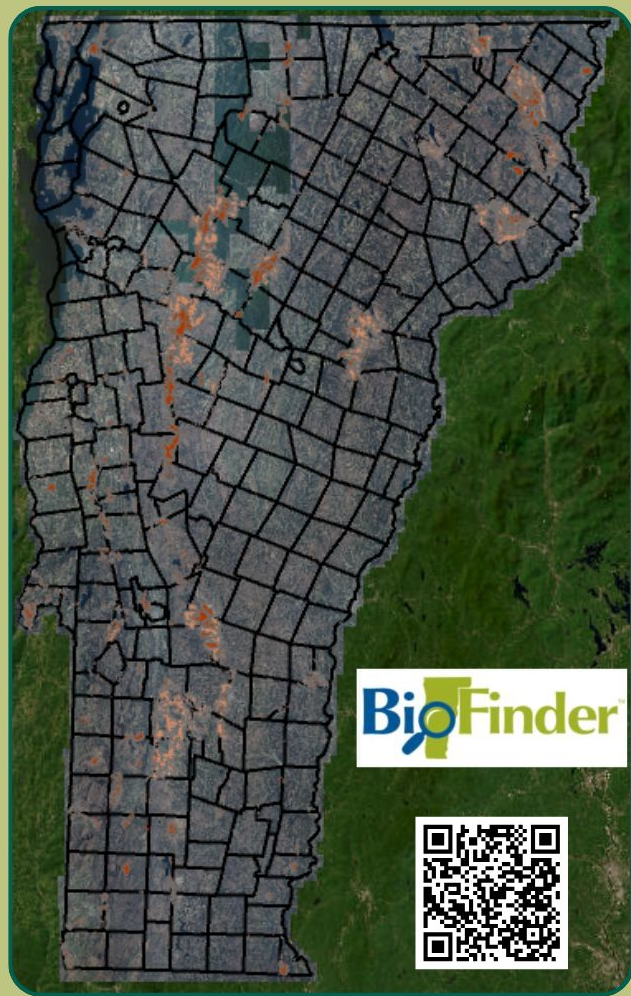




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Mapping Our Natural Communities



Layers



Search...



Prioritization



Filter Layers...



Filter

— ☒ Overall Priorities: Vermont Conservation Design☐ Species and Community Scale☒ Landscape Scale— ☒ Species and Community Scale Components☐ Rare, Threatened, Endangered Species☐ Natural Communities☐ Aquatic Habitats☐ Wetlands☐ Wildlife Road Crossings☐ Vernal Pools☐ Uncommon Species— ☒ Landscape Scale Components☐ Interior Forest Blocks☐ Connectivity Blocks☐ Geological Diversity Blocks

Quick Tools...



Tools

