Where the Wild Things Aren't

Expanding Ecological Representation in the Northeast

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In collaboration with

Vermont Fish & Wildlife

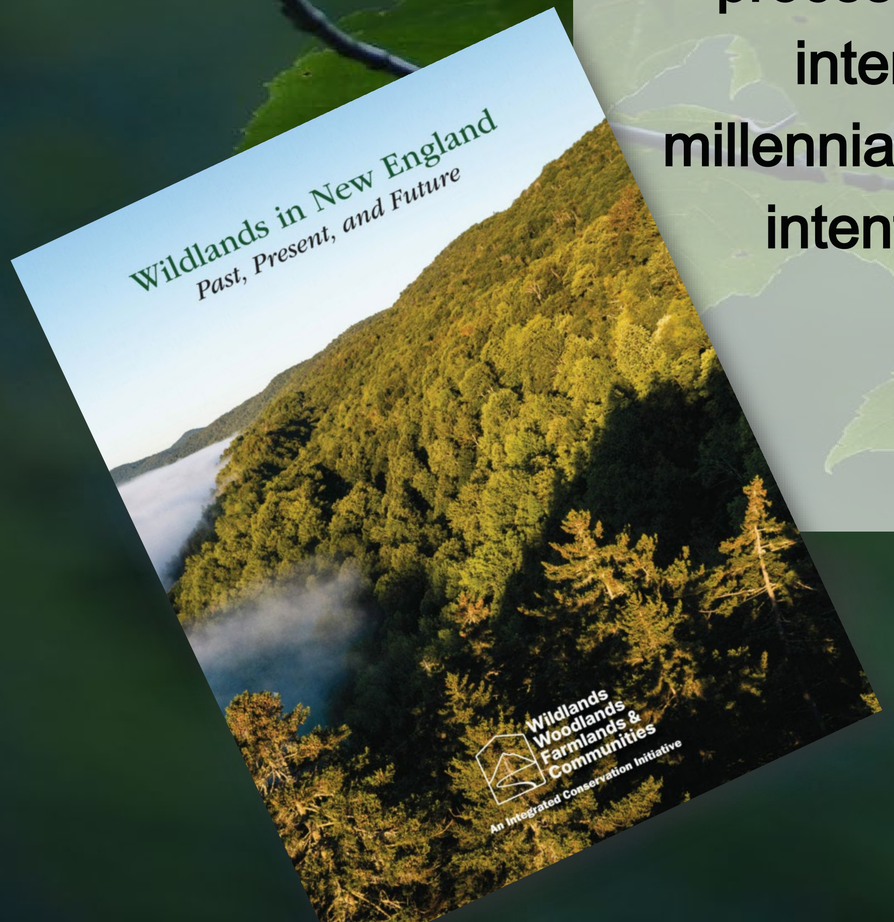
Outline:

- Introduction and definitions
- Vermont as a Case Study
- Results, the tool, and feedback
- Q & A

What are Wildlands?

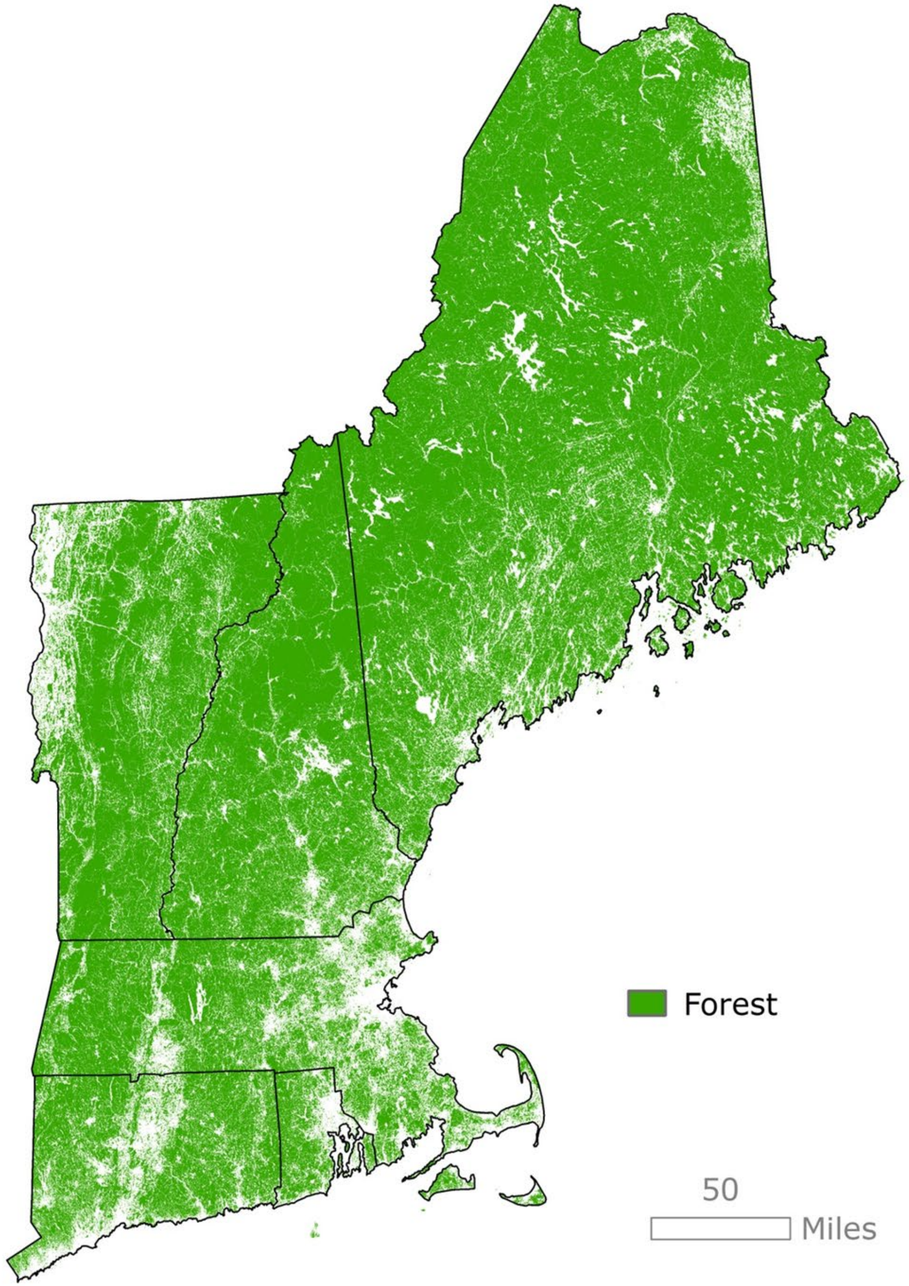
Wildlands are tracts of any size and current condition, permanently protected from development, in which management is explicitly intended to allow natural processes to prevail with “free will” and minimal human interference. Humans have been part of nature for millennia and can coexist within and with Wildlands without intentionally altering their structure, composition, or function.

Definition from *Wildlands in New England (2023)*



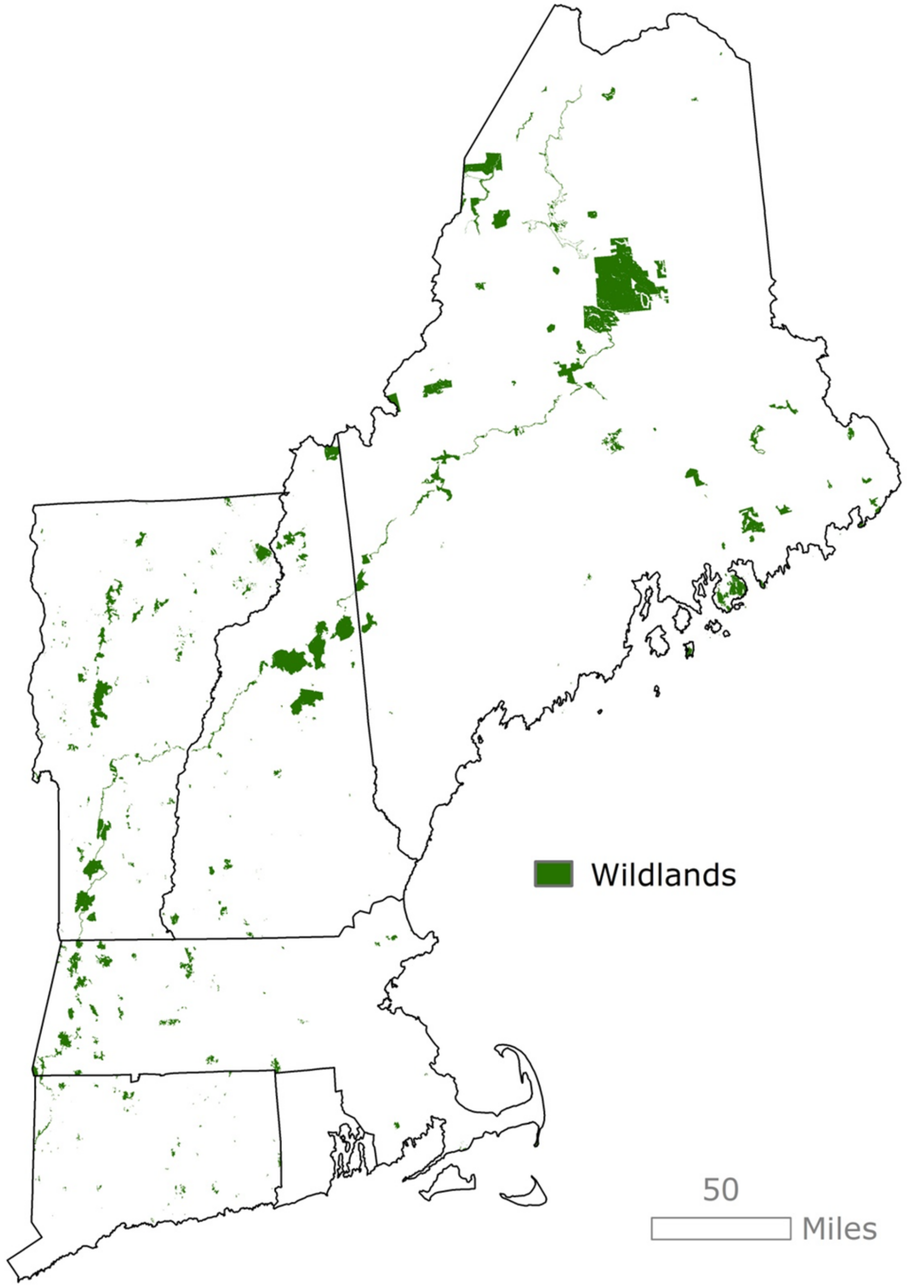
81%

of New England is forest.



3.3%

is Wildlands.



Wildlands vs. Old Forests

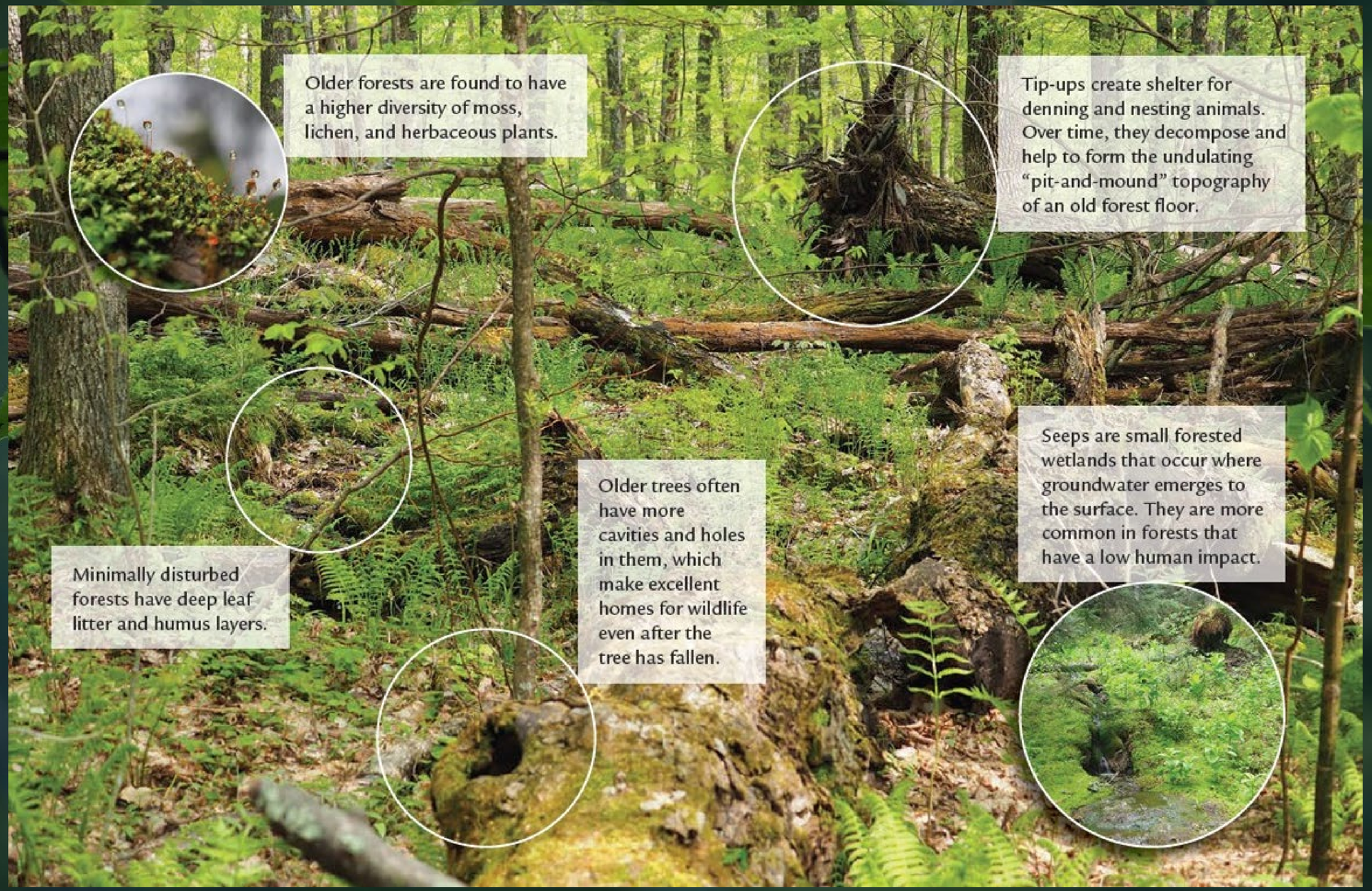
Wildlands vs. Old Forests

3.7%

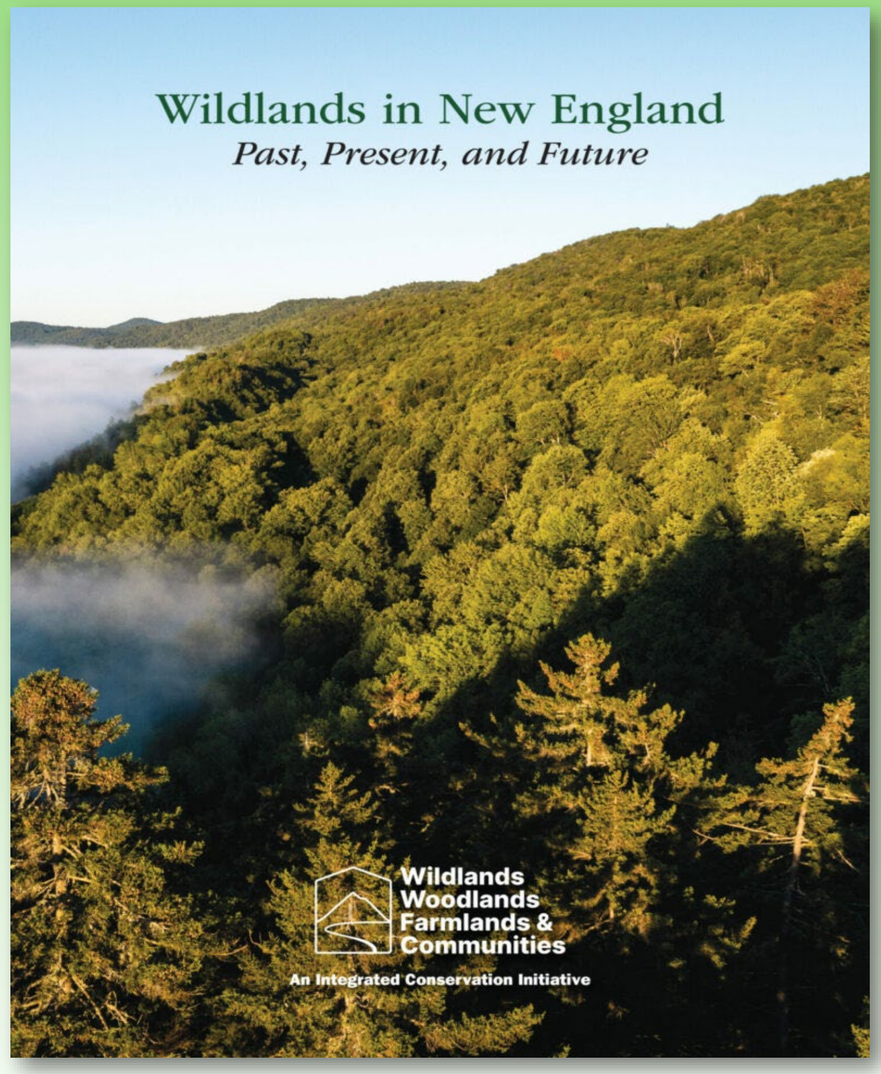
Of VT is protected as Wildlands.

<0.5%

Of VT has the characteristics of old forest



McMahon, JS, Biodiversity: The Language of Wilderness *2021 Northeast Wilderness Trust*



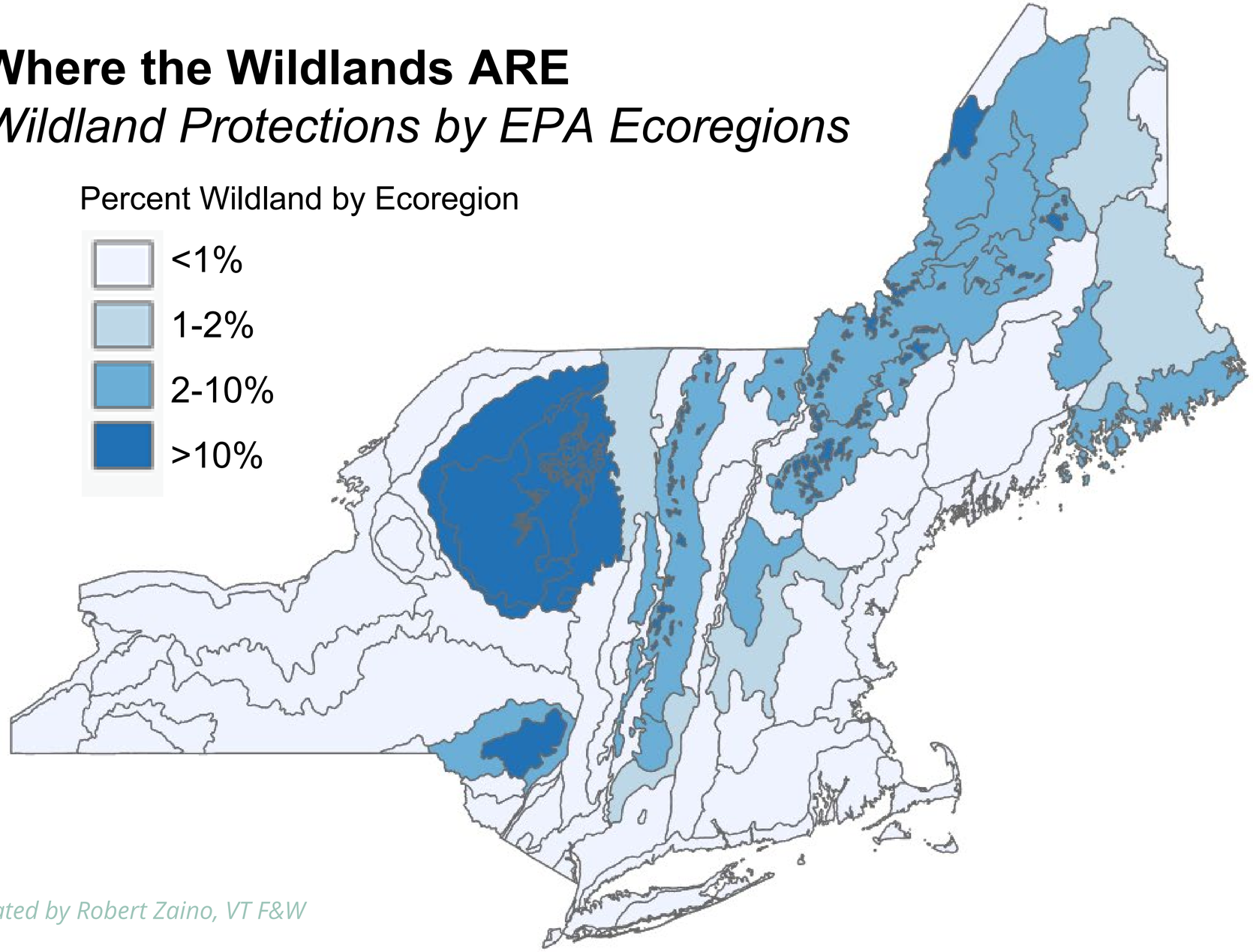
Wildlands In New England Recommended:

"Establish many more and larger Wildlands in a regionally connected network that secures the full diversity of nature.

Distribute Wildlands in all biophysical regions and all geophysical settings—appropriately sized, connected, and buffered by protected lands to provide their full ecological function."

Where the Wildlands ARE

Wildland Protections by EPA Ecoregions



Map created by Robert Zaino, VT F&W

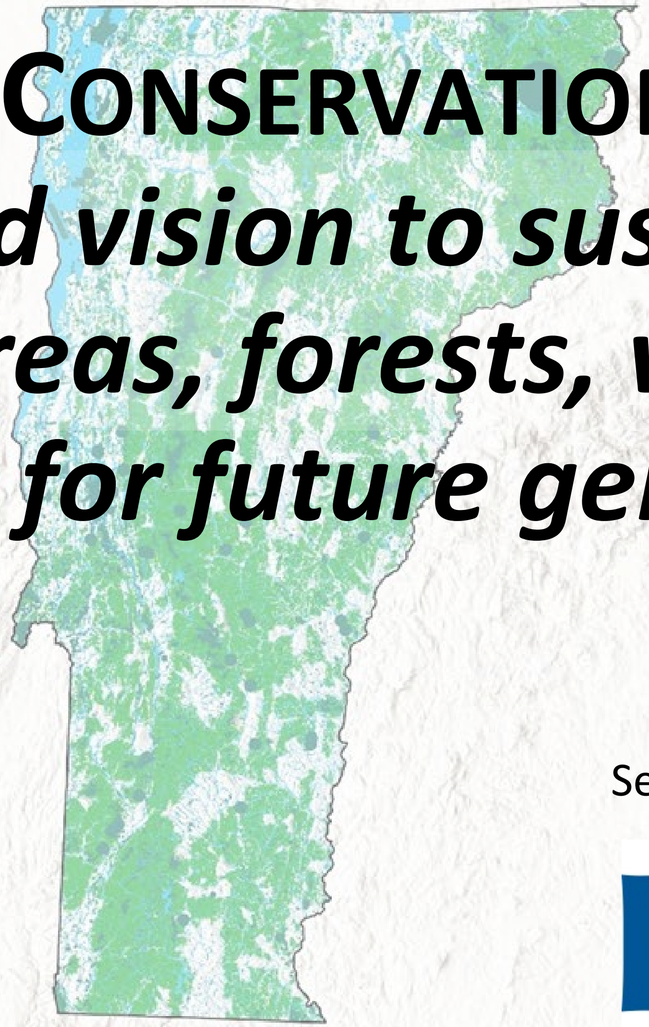
Goals for Ecological Representation in Wildlands

Building on the recommendations in ***Wildlands in New England:***

- ***Protect at least 10 percent of the natural land in every ecoregion as Wildland.***
- ***Represent each ecoregion's natural communities in Wildlands.***
- ***Establish Wildlands, when feasible, in large and connected natural lands.***

VERMONT CONSERVATION DESIGN

is a science-based vision to sustain the state's valued natural areas, forests, waters, wildlife, and plants for future generations



VERMONT
AGENCY OF NATURAL RESOURCES

VERMONT FISH & WILDLIFE

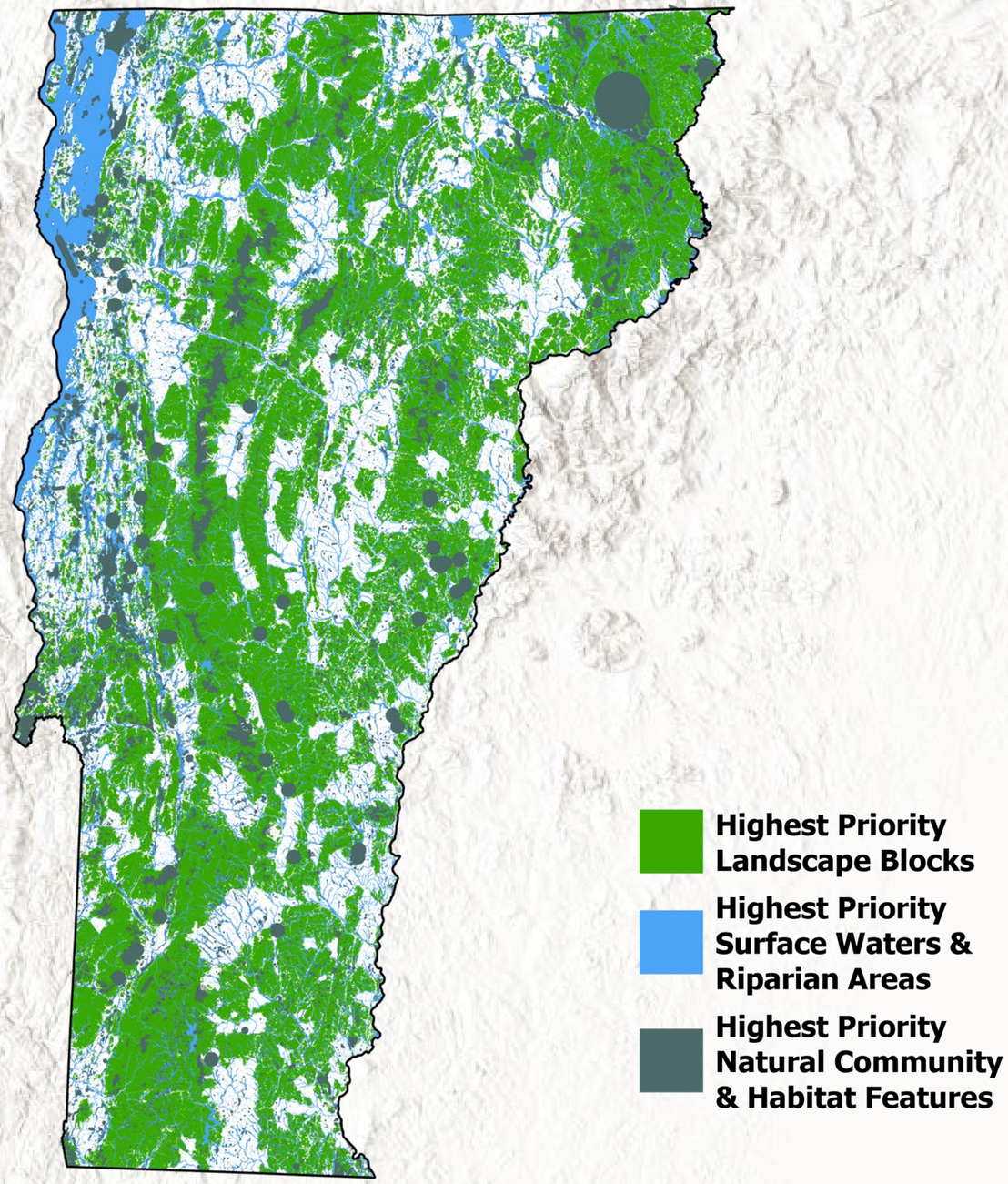
See VCD on

BioFinder™

https://anrmaps.vermont.gov/websites/BioFinder4/

AN ECOLOGICALLY FUNCTIONAL LANDSCAPE IS…

- *Intact*
- *Connected*
- *Diverse*



Young and Old Forest Targets

- 3-5% young forest
- ≈10% old forest

Distributed across Vermont and proportional to matrix forest types

Conservation vision – not a mandate

In most cases, old forests can develop under passive management

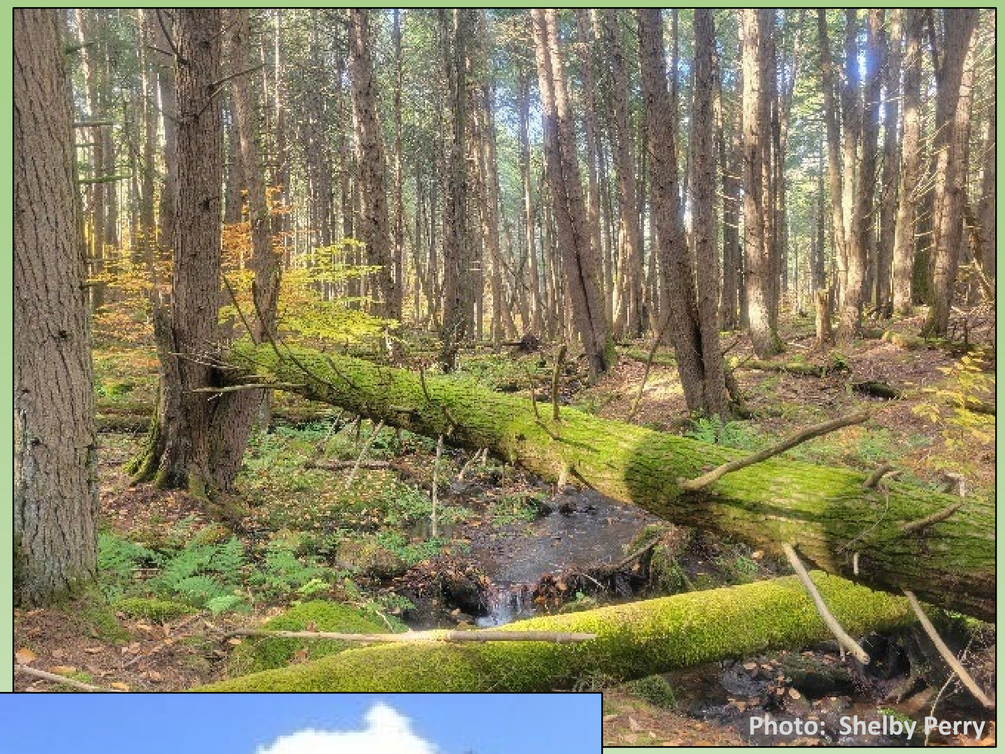
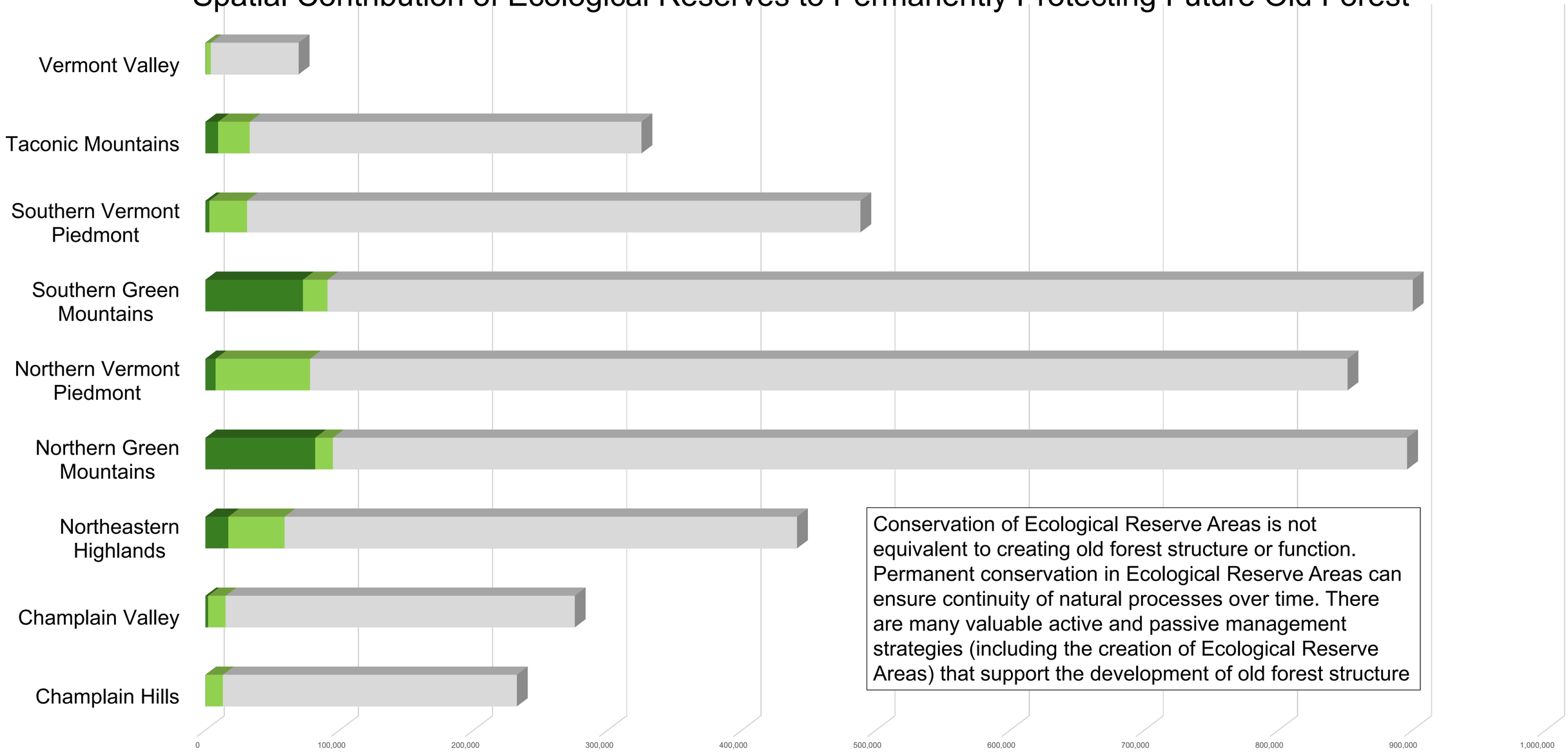


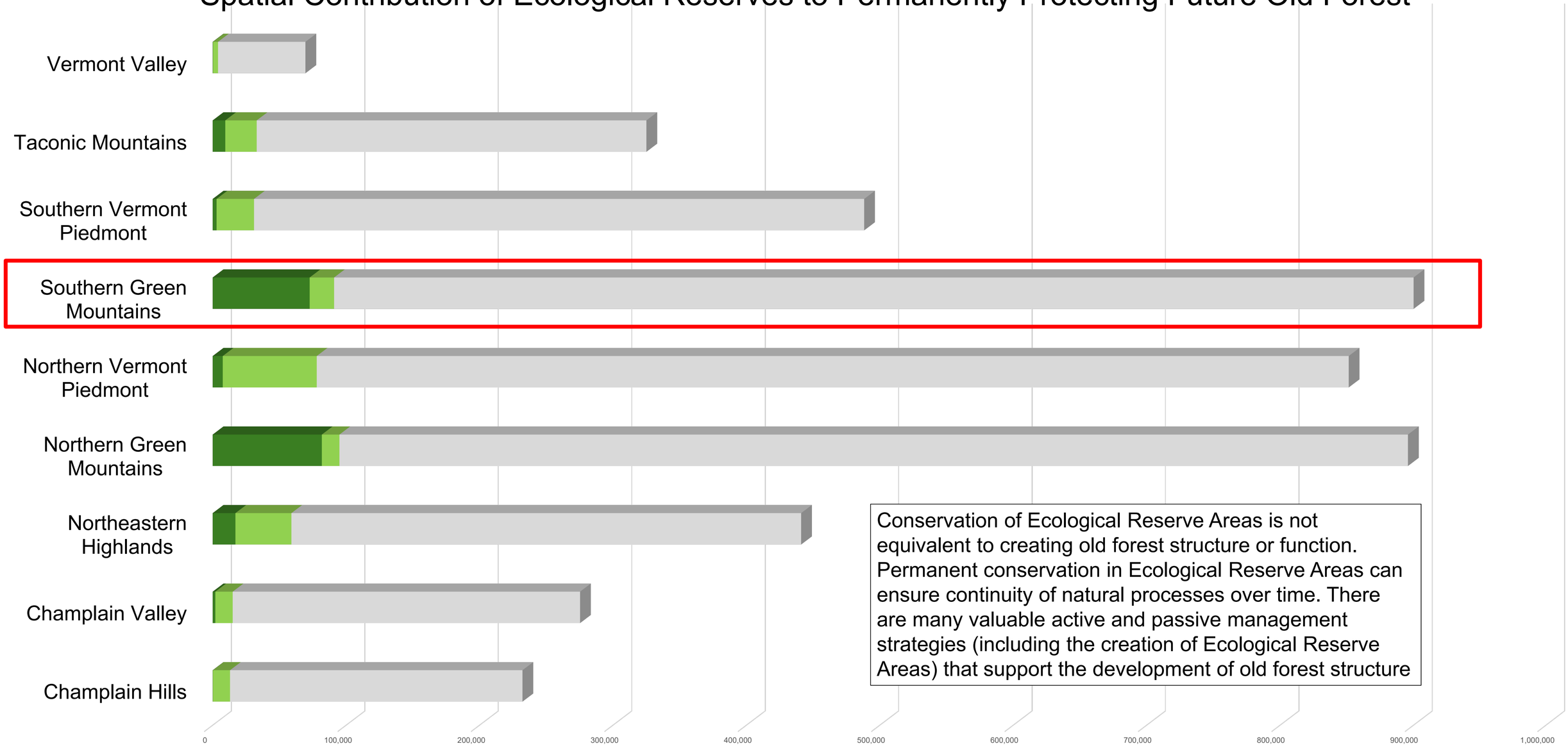
Photo: Shelby Perry

Spatial Contribution of Ecological Reserves to Permanently Protecting Future Old Forest



Conservation of Ecological Reserve Areas is not equivalent to creating old forest structure or function. Permanent conservation in Ecological Reserve Areas can ensure continuity of natural processes over time. There are many valuable active and passive management strategies (including the creation of Ecological Reserve Areas) that support the development of old forest structure

Spatial Contribution of Ecological Reserves to Permanently Protecting Future Old Forest



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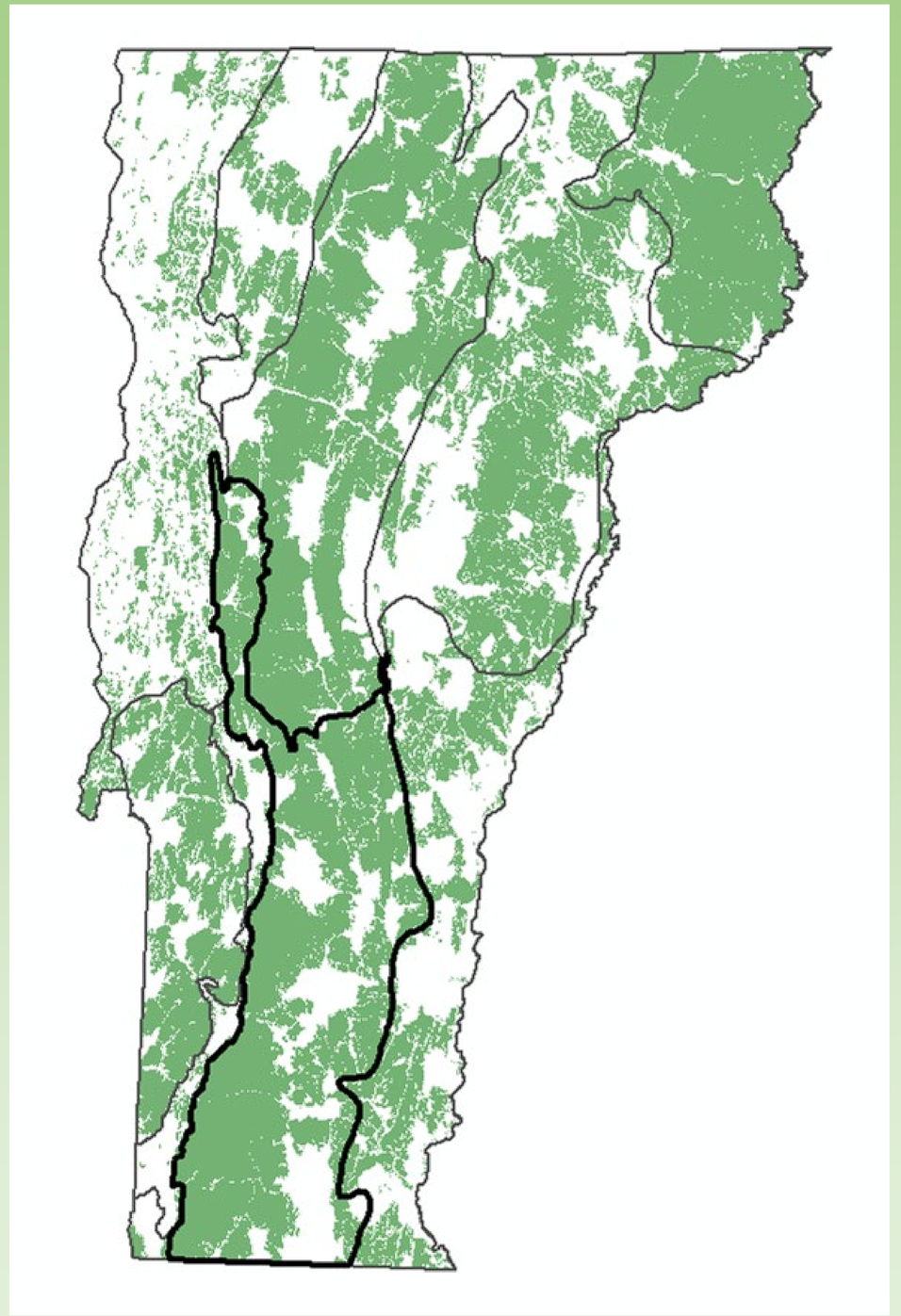
Southern Green Mountains

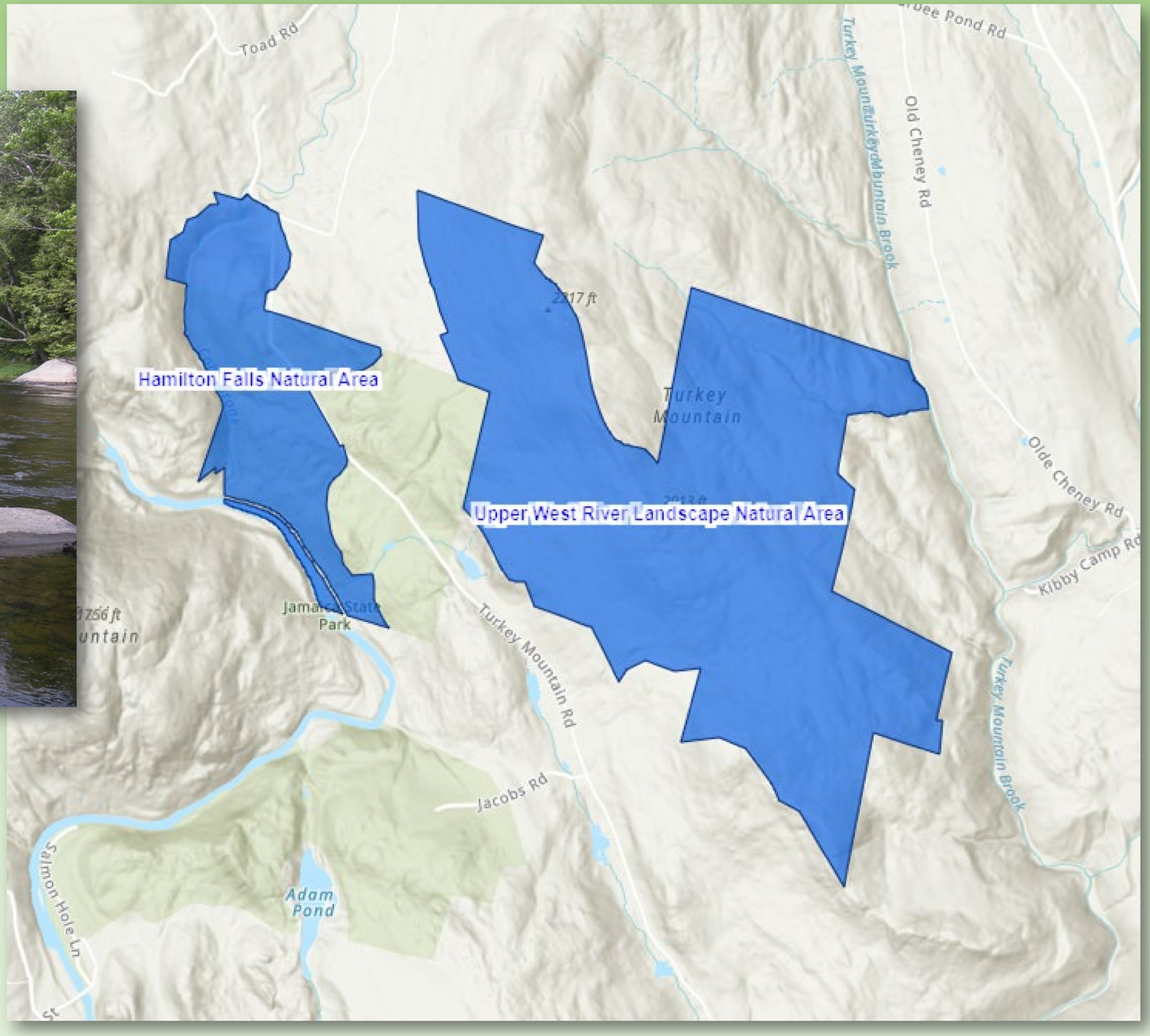
Vermont Conservation Design
old forest target: **91,000 acres**

Acres of Wildlands: **87,780 acres (96%)**

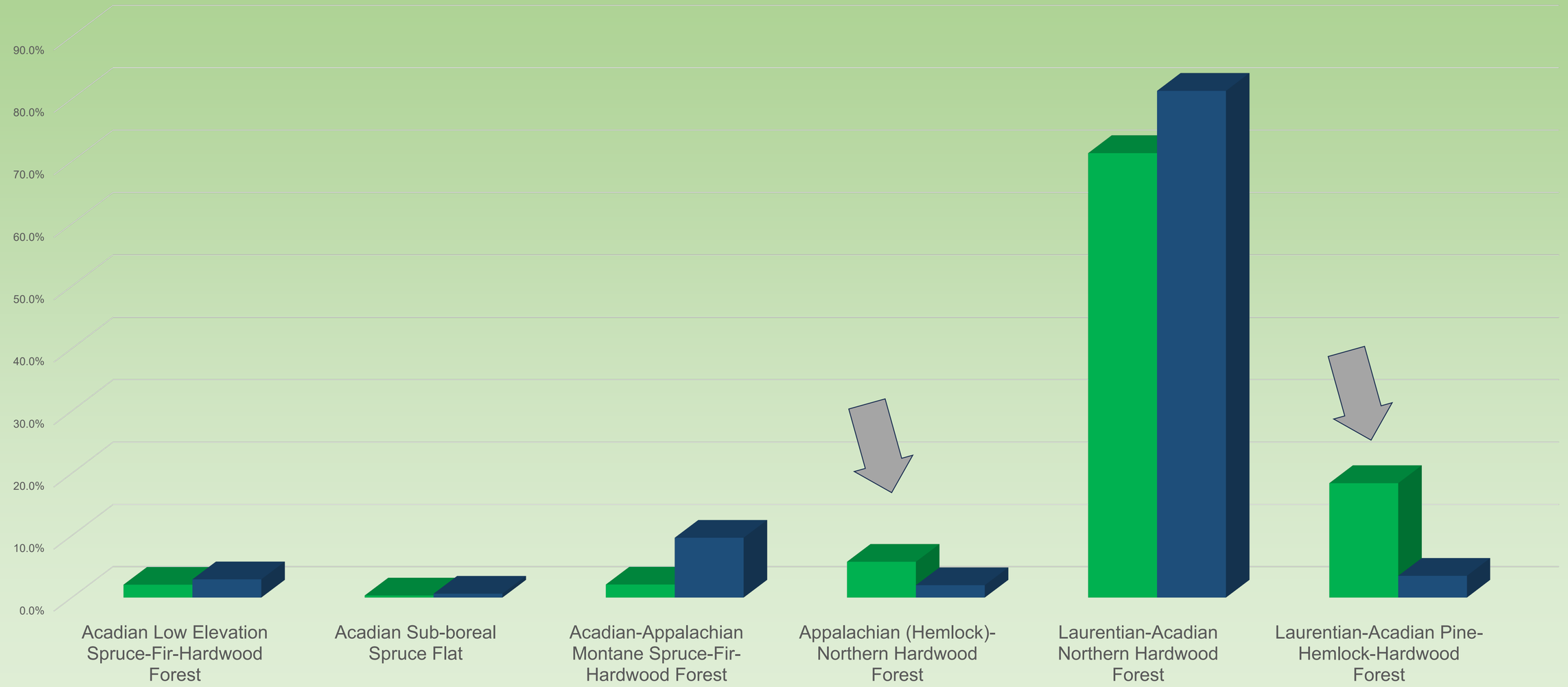
Preferred minimum patch size: *4,000 acres*

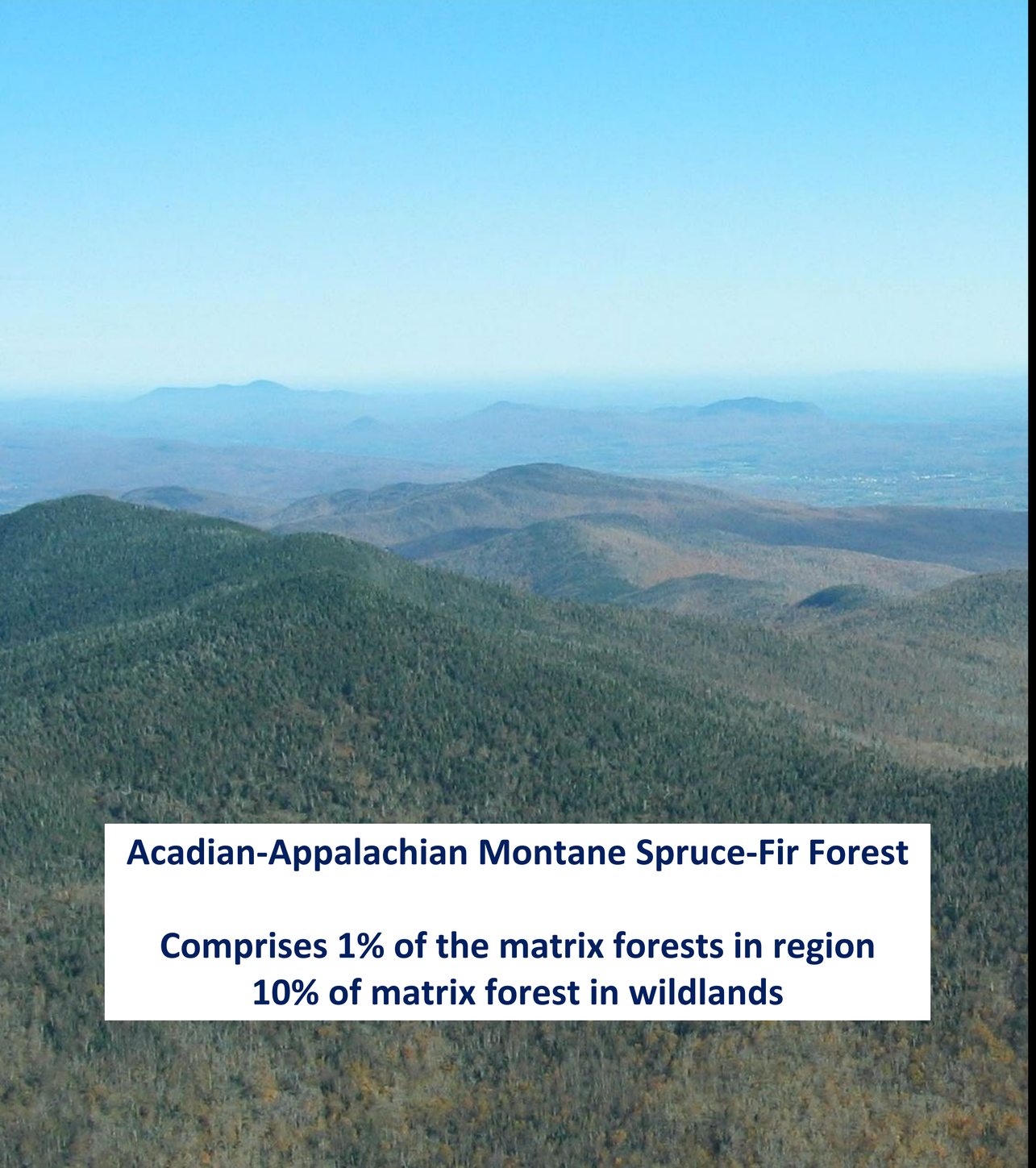


Bourne Pond, Lye Brook Wilderness (18,000 acres), Green Mountain National Forest
Photo: Scott Wixsom


Toad Rd
Turkey Mountain Brook
Old Cheney Rd
2217 ft
Hamilton Falls Natural Area
Turkey Mountain
Upper West River Landscape Natural Area
Olde Cheney Rd
Kibby Camp Rd
Park
Turkey Mountain Rd
Jacobs Rd
Salmon Hole Ln
Adam Pond
Turkey Mountain Brook

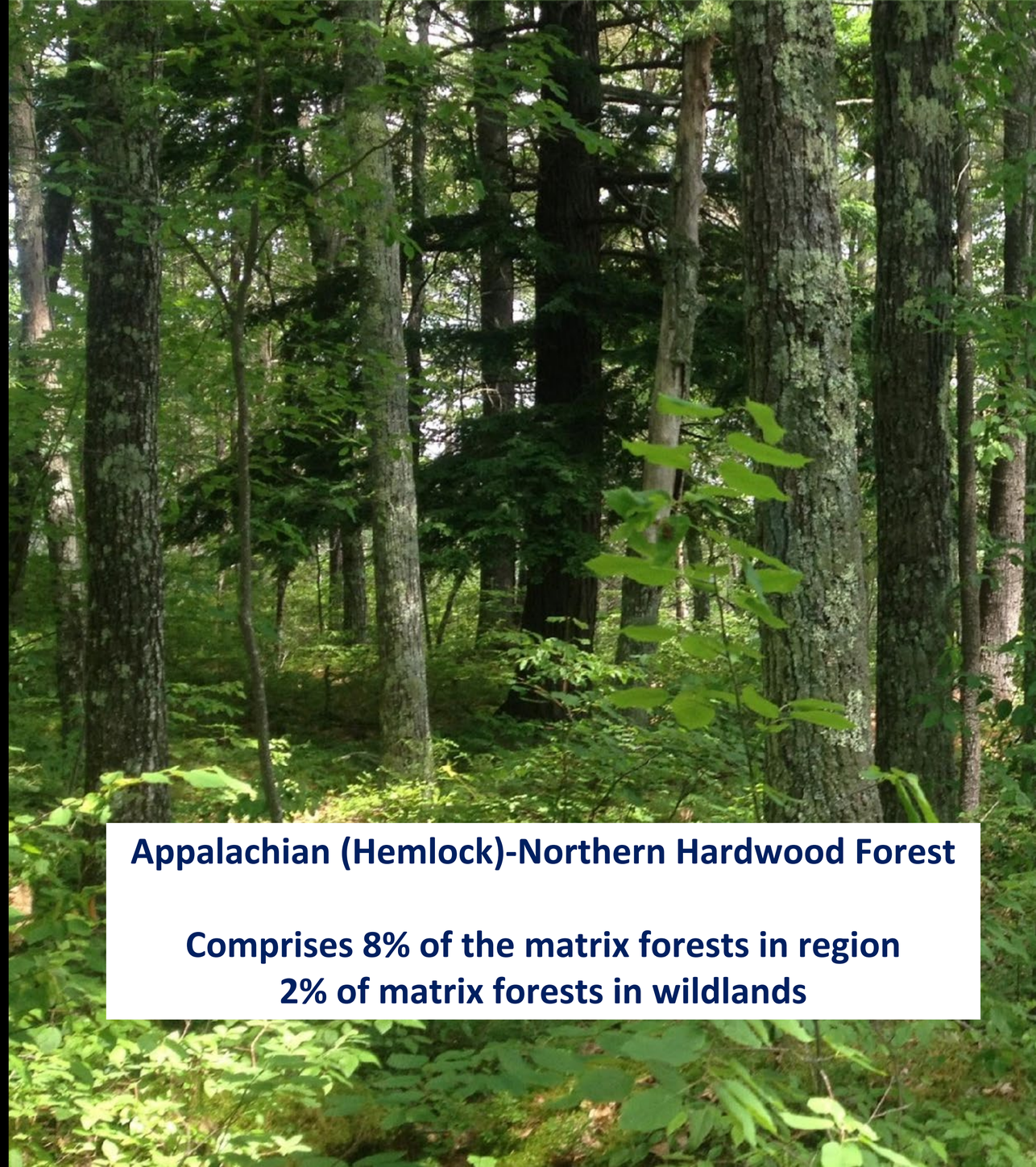
Representation of Matrix Forest Types – Southern Green Mountains Wildlands





Acadian-Appalachian Montane Spruce-Fir Forest

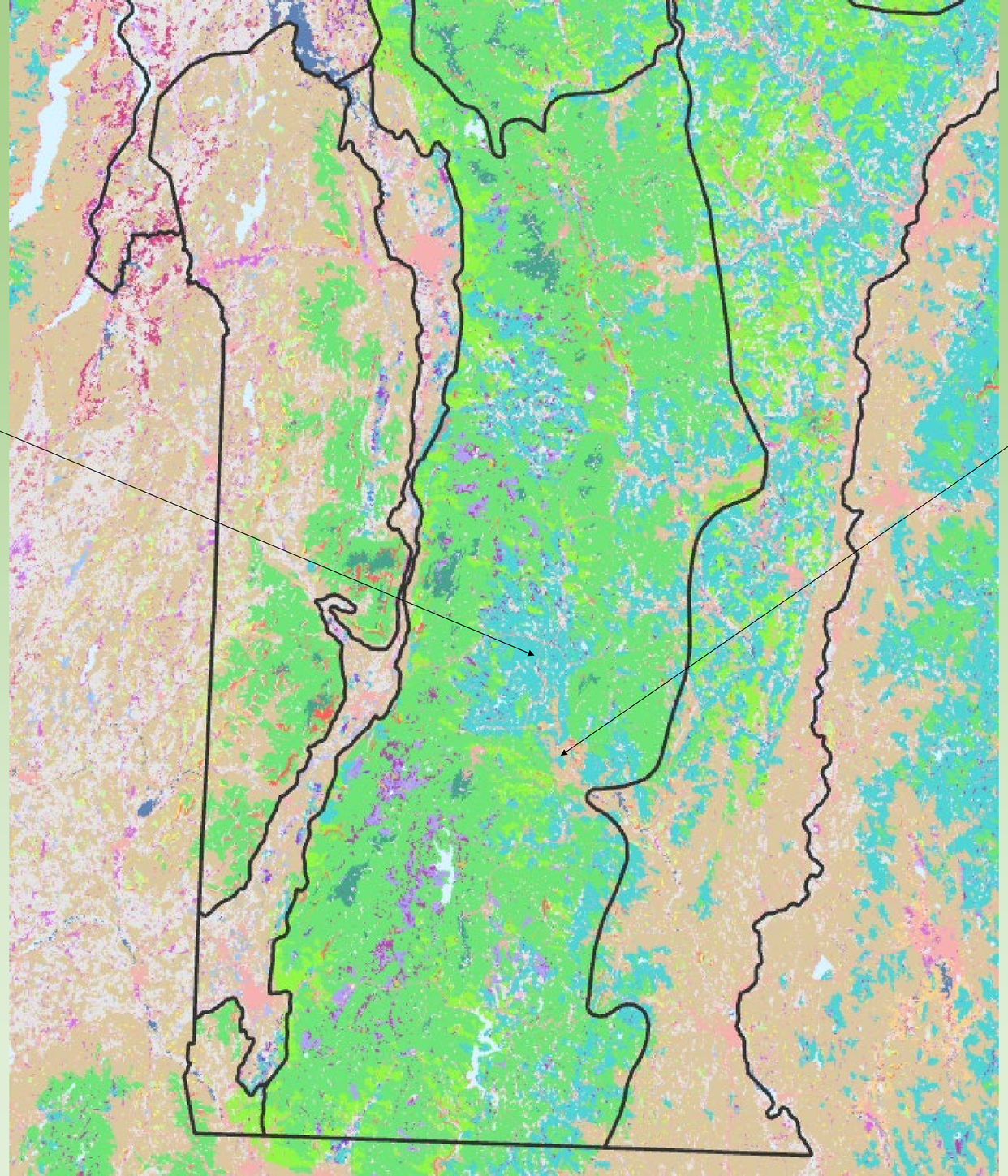
Comprises 1% of the matrix forests in region
10% of matrix forest in wildlands



Appalachian (Hemlock)-Northern Hardwood Forest

Comprises 8% of the matrix forests in region
2% of matrix forests in wildlands

Laurentian-Acadian Pine-Hemlock-Hardwood Forest (blue-green)



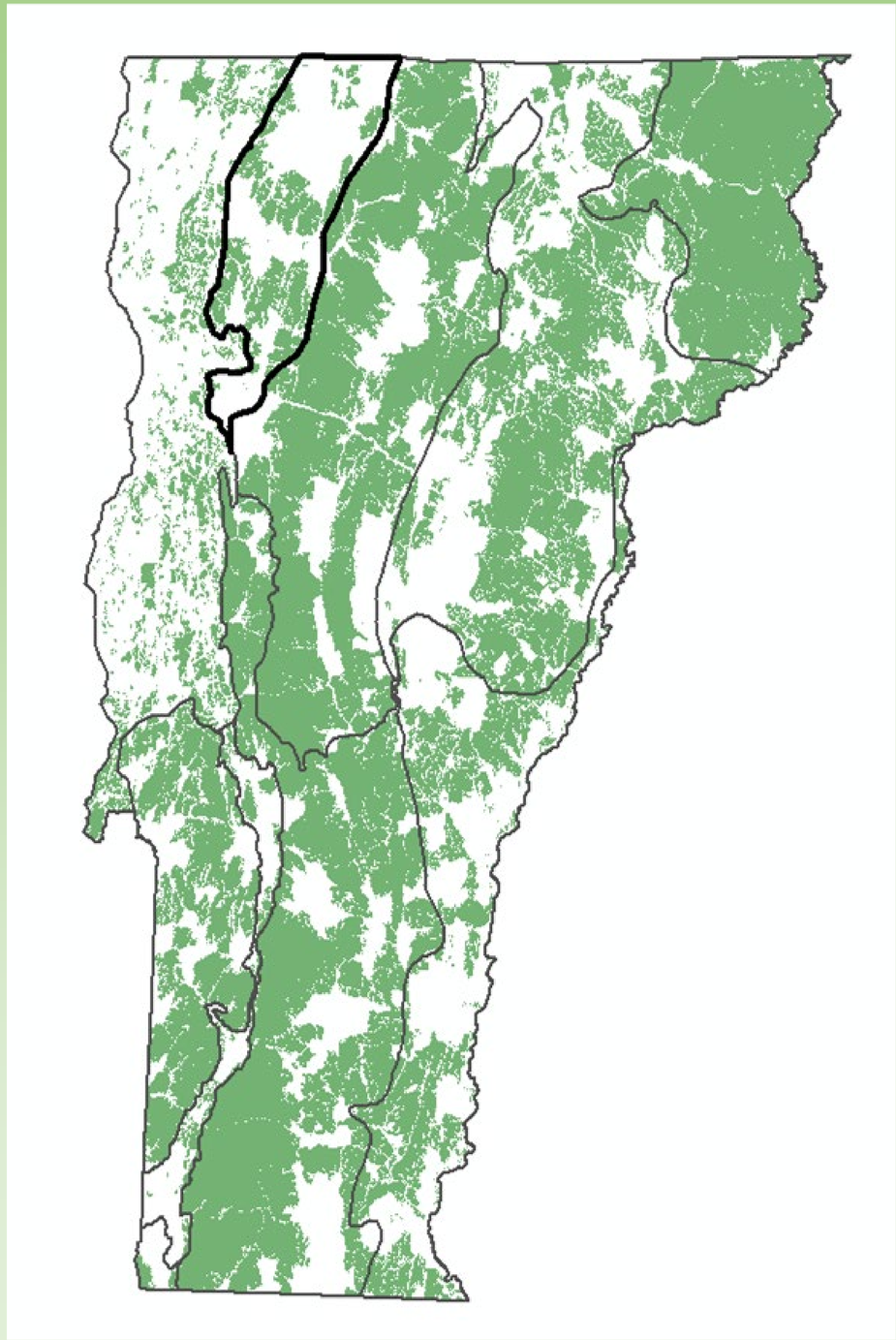
Appalachian (Hemlock)-Northern Hardwood Forest (brown-pink)

Champlain Hills

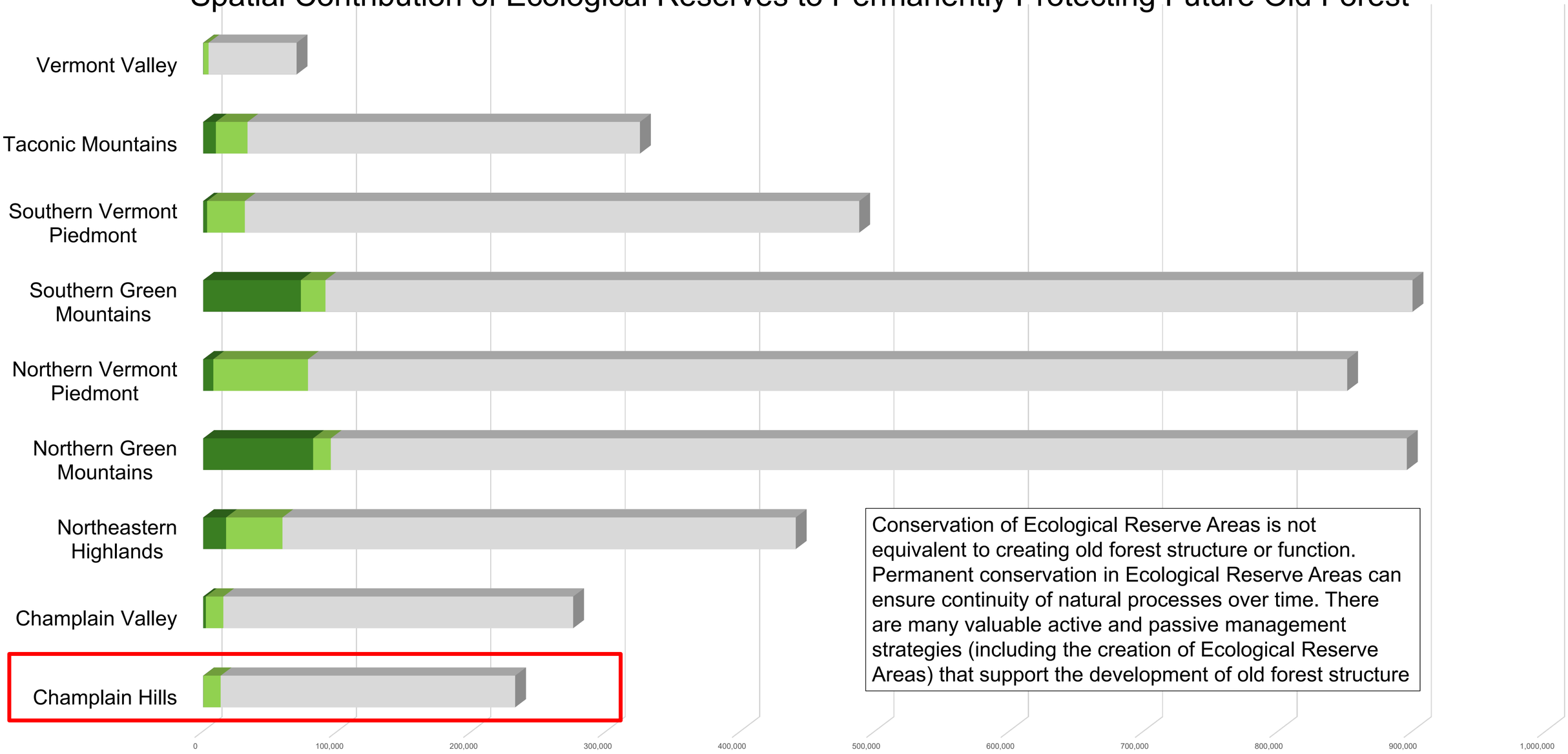
Vermont Conservation Design
old forest target: 13,000 acres

Acres of Wildlands: 184 (1.4%)

Preferred minimum patch size: 1,000 acres



Spatial Contribution of Ecological Reserves to Permanently Protecting Future Old Forest



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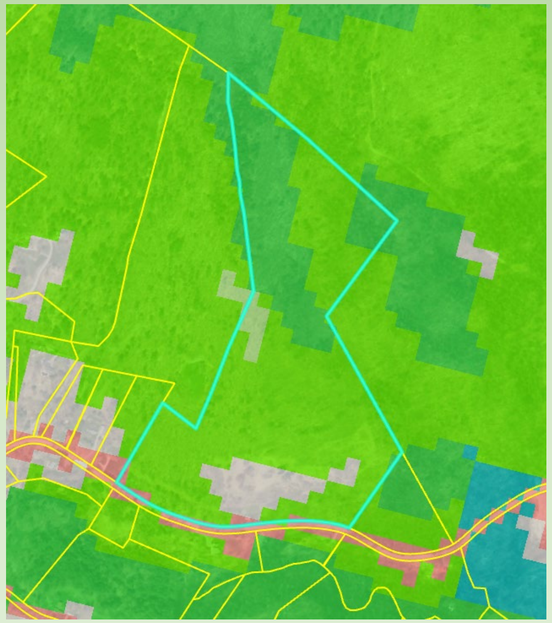
Champlain Hills

Vermont Conservation Design
old forest target: 13,000 acres

Acres of Wildlands: 184 (1.4%)

Preferred minimum patch size: 1,000 acres

Unprotected	***206,653***
Protected, Not Wildland	***28,886***
Wildland, Weak	***24***
Wildland, Strong	***161***



Private Lands Easement

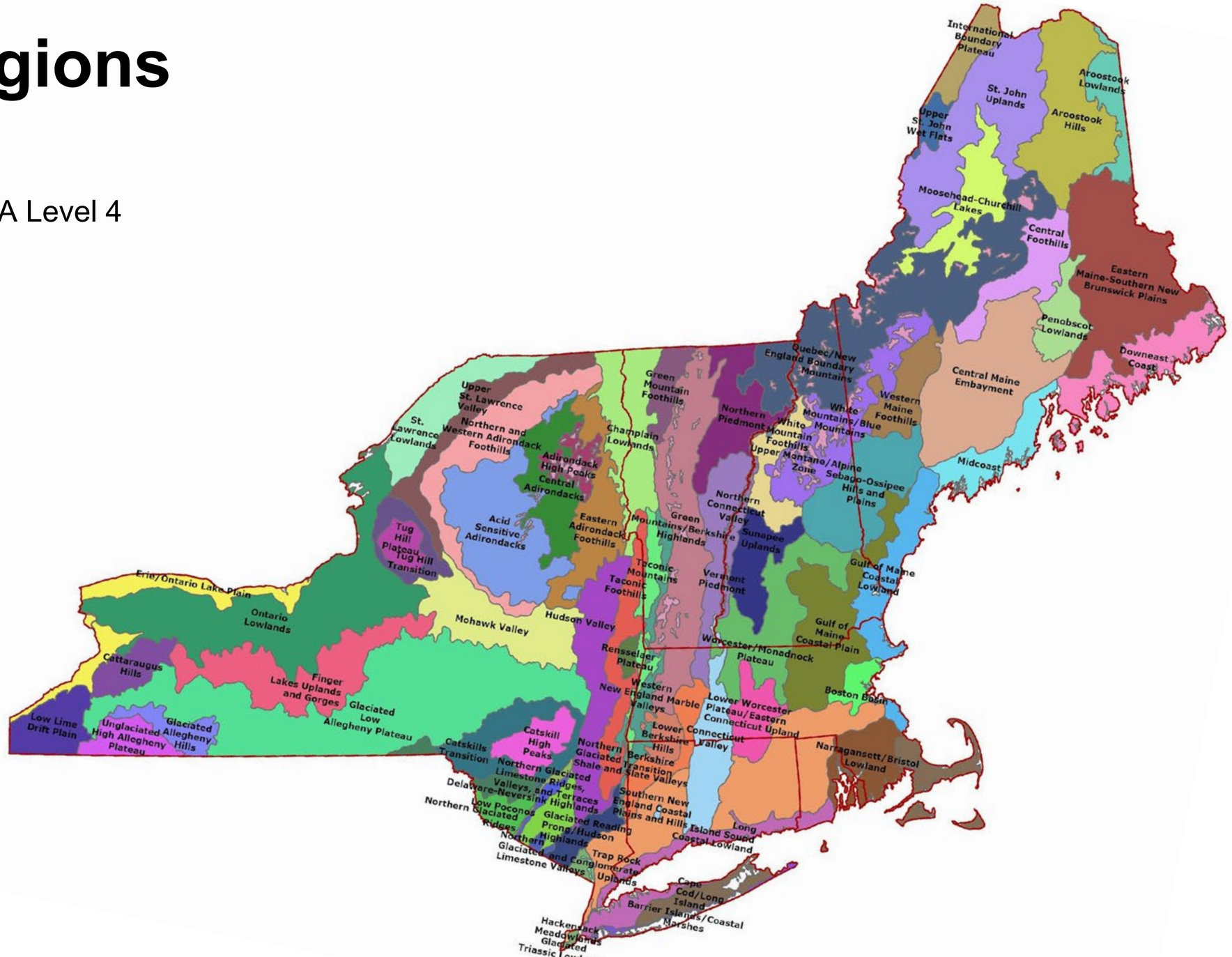
Lake Carmi Bog Natural Area

Overall Approach/Steps:

- Quantify the % of each major forest Habitat type in Wildlands (Biorepresentation).
- Identify the most intact landscapes for each Habitat (Local Connectedness).
- Combine 1 and 2 in simple manner and share with others.

Ecoregions

Modified US EPA Level 4 Ecoregions



Habitats

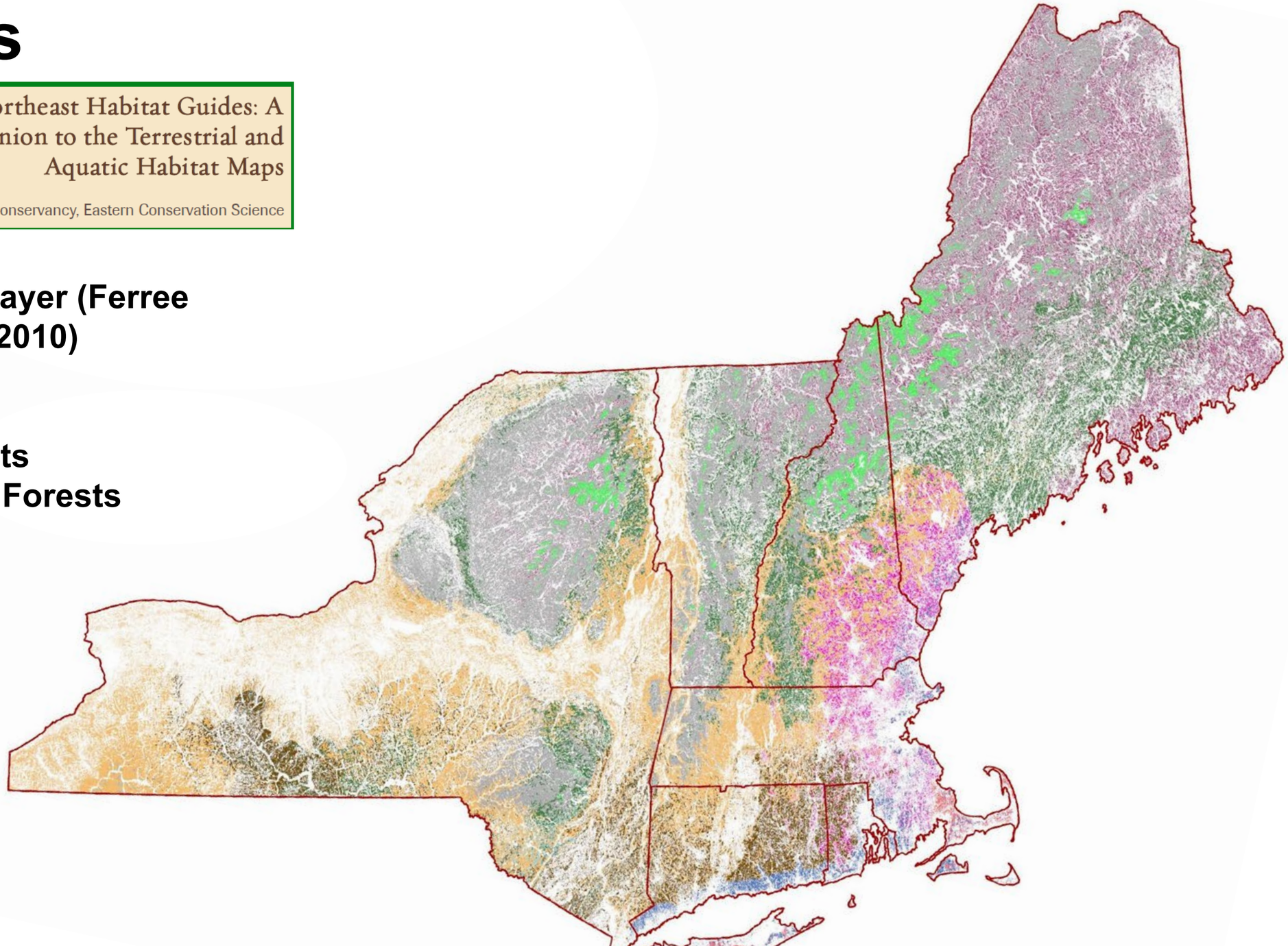
Northeast Habitat Guides: A Companion to the Terrestrial and Aquatic Habitat Maps

The Nature Conservancy, Eastern Conservation Science

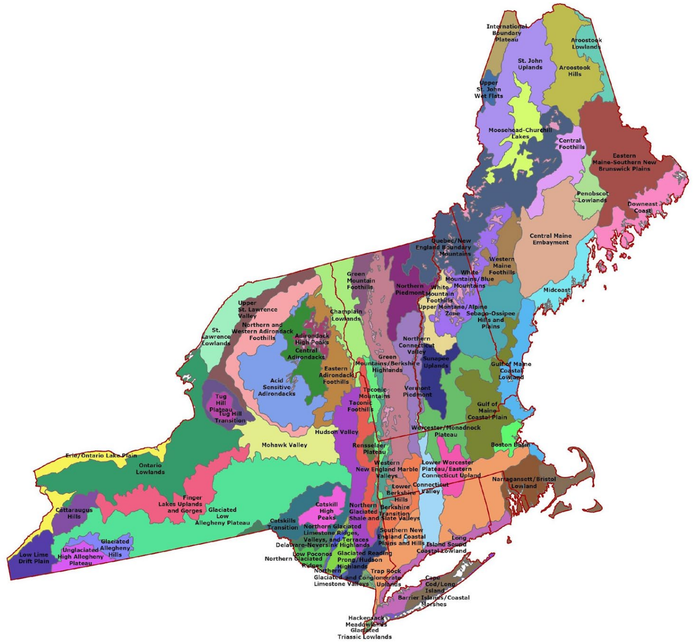
TNC Habitats Layer (Ferree and Anderson 2010)

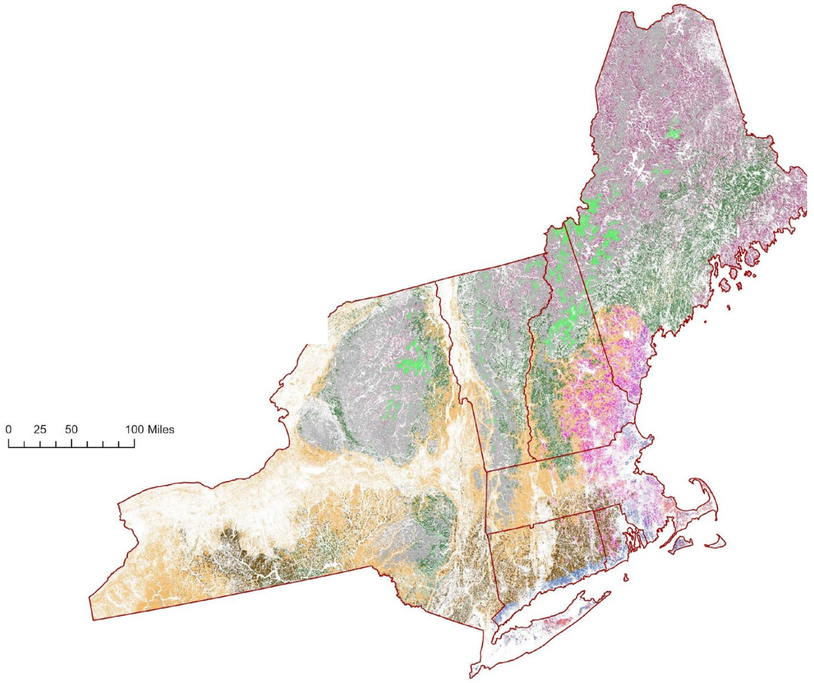
Only modelled

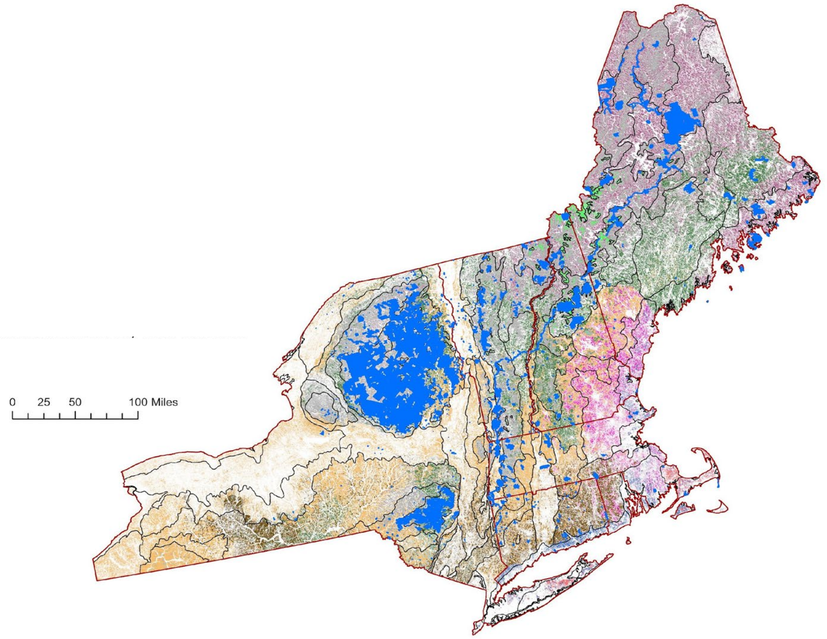
- **Matrix Forests**
- **Large Patch Forests**



Ecoregions X Habitats X Wildlands

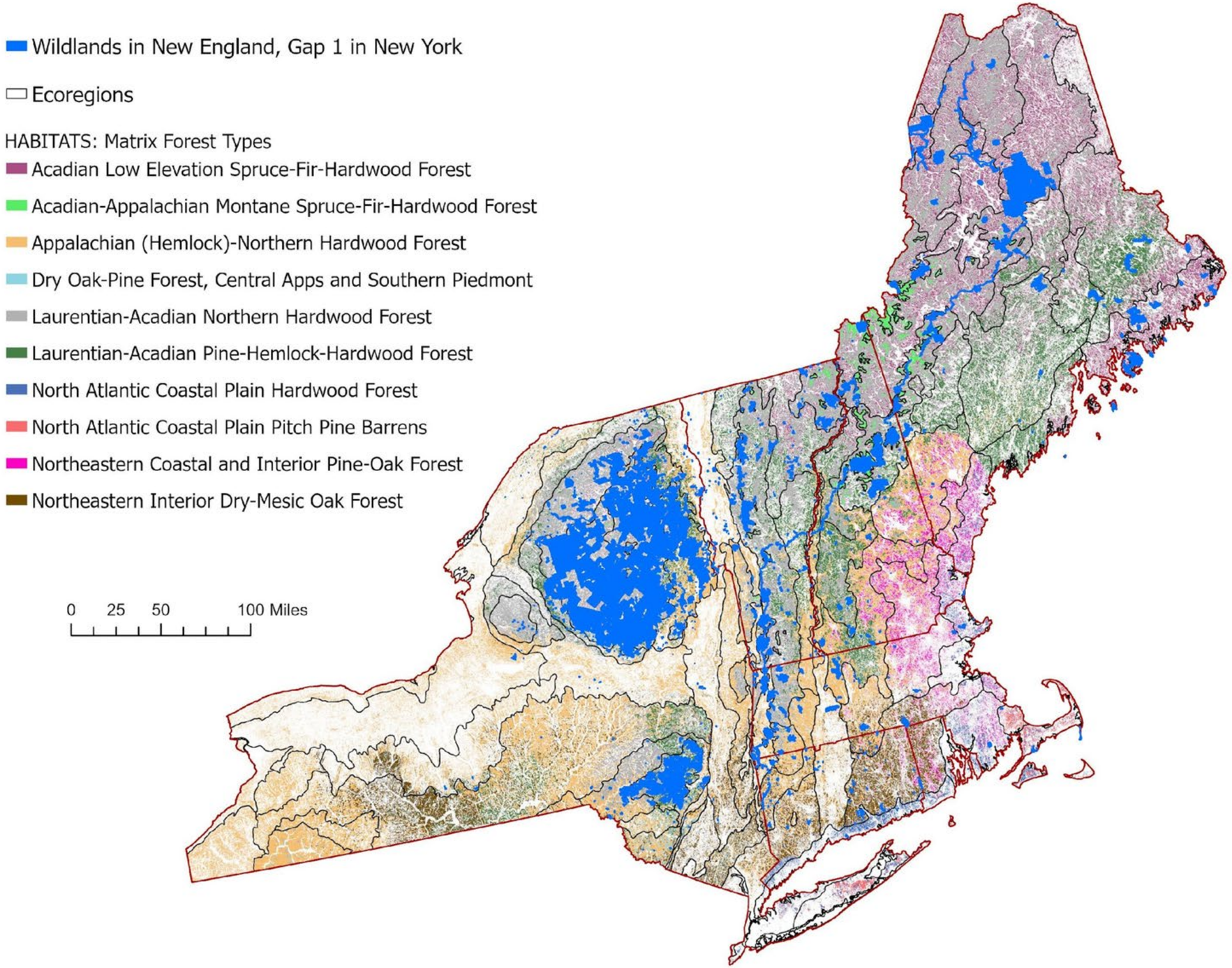




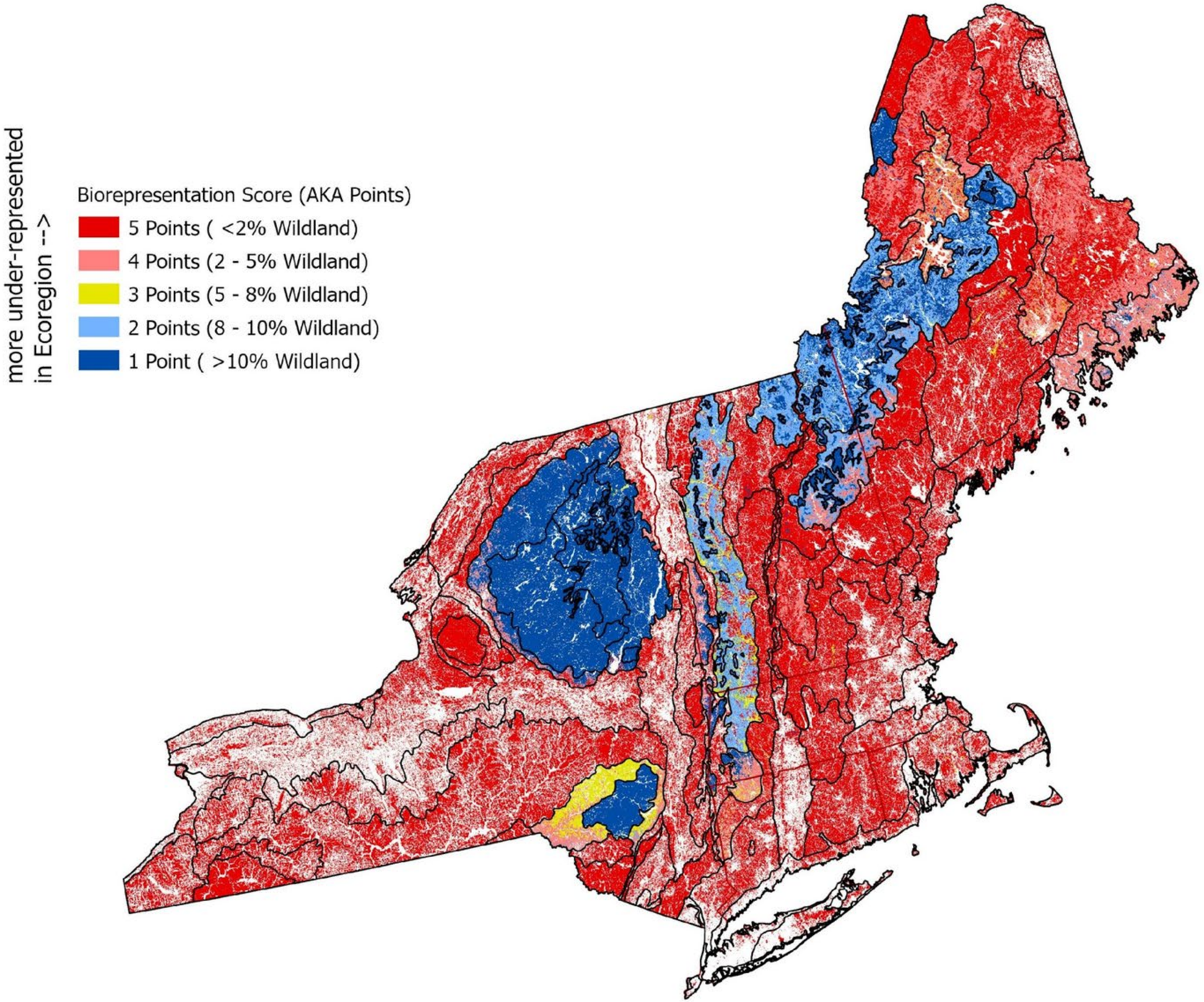


Eco-Habs

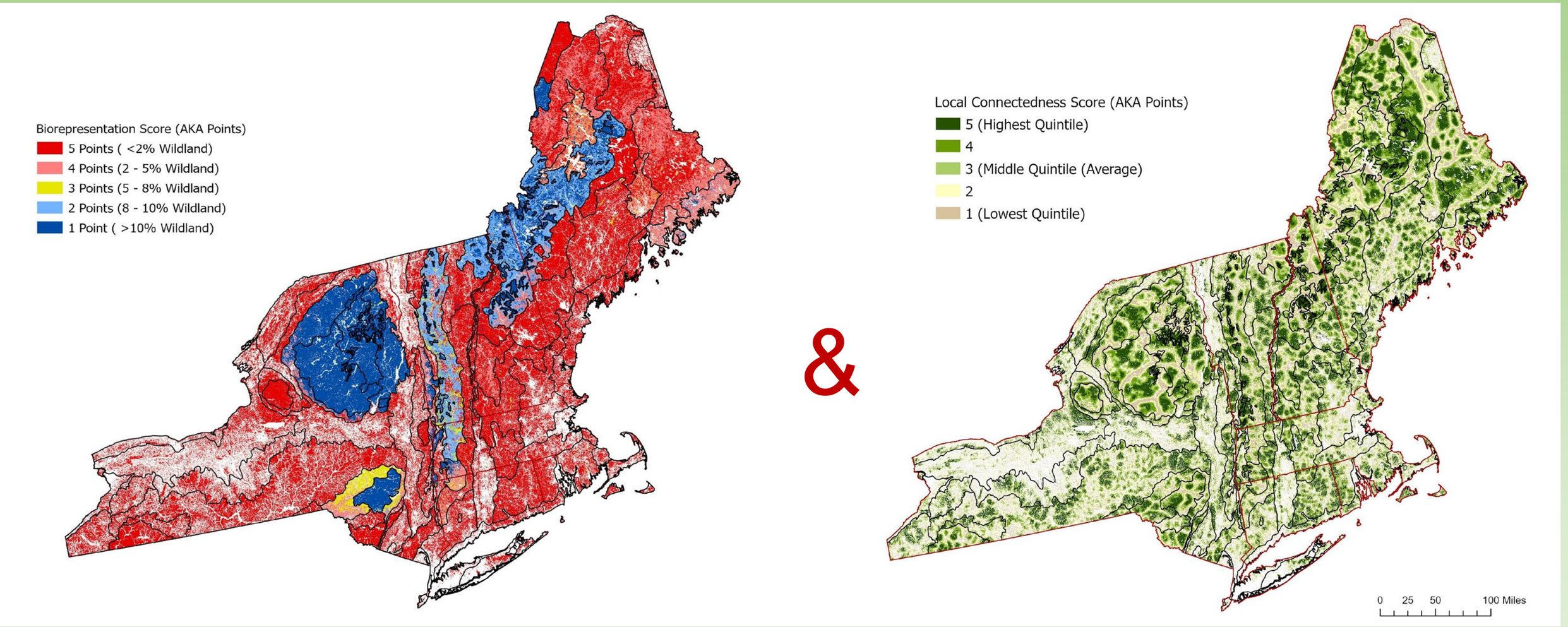
Wildlands in Eco-Habs



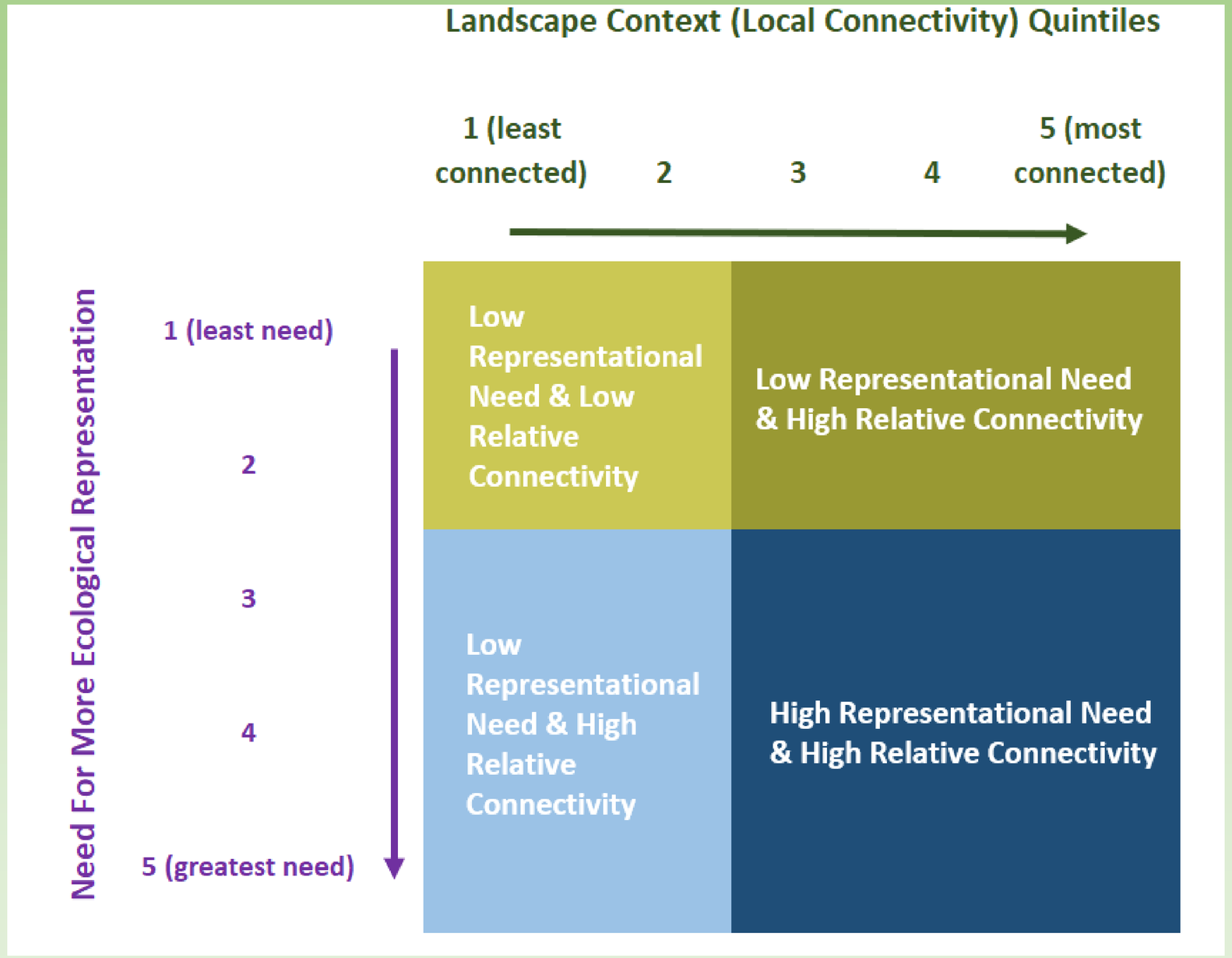
Representation Score



To create a simpler product for users:



Priority Categories



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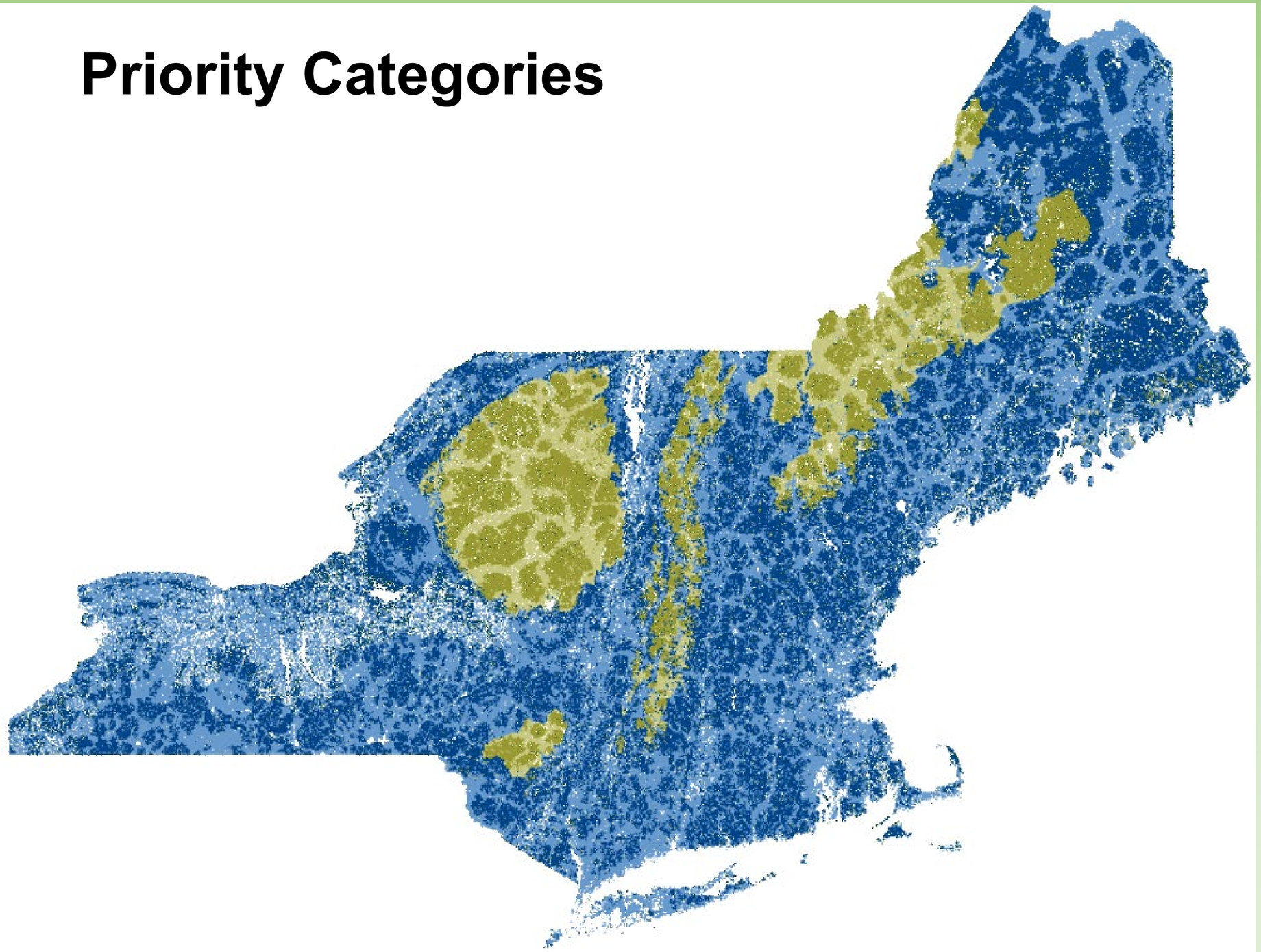

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Visit our website and view the web map tool

www.wildlandsandwoodlands.org/resources/wildlands-prioritization/

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