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Getting Ahead of Climate Change: Identifying Climate Resilient Places for Wildlife

May 20, 2014



***Given uncertainties of climate change,
how do we conserve the places that will be
important to wildlife into the future ?***

What will wildlife do as the climate changes?



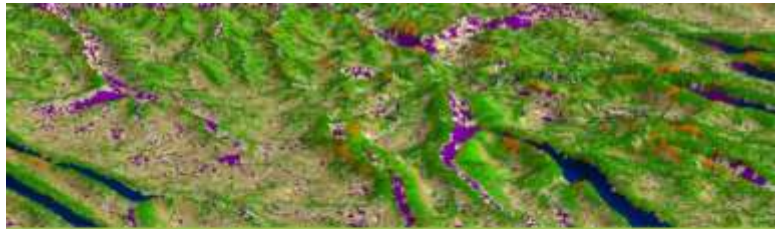


Resilient Landscape Initiative

- **Goal:** Help ensure that the land we protect today will be important for wildlife tomorrow, given the pace and uncertainty of climate change.
- **Outcomes:**
 - ✓ ***Build the capacity*** of land trusts and public agencies to respond to climate change.
 - ✓ ***Demonstrate effective land protection***
 - ✓ ***Advance the practical application*** of climate science for land conservation



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Resilient Sites for Terrestrial Conservation in the Northeast and Mid-Atlantic Region

The Nature Conservancy · Eastern Conservation Science
Mark G. Anderson, Melissa Clark, and Arlene Olivero Sheldon



- Does not try to predict how the climate will change.
- Focuses on enduring features of the landscape.
- Complements species-based approaches.

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Resilience

- Recover from disturbance
- Maintain ecosystem function
- Remain dynamic and flexible



Highly Vulnerable

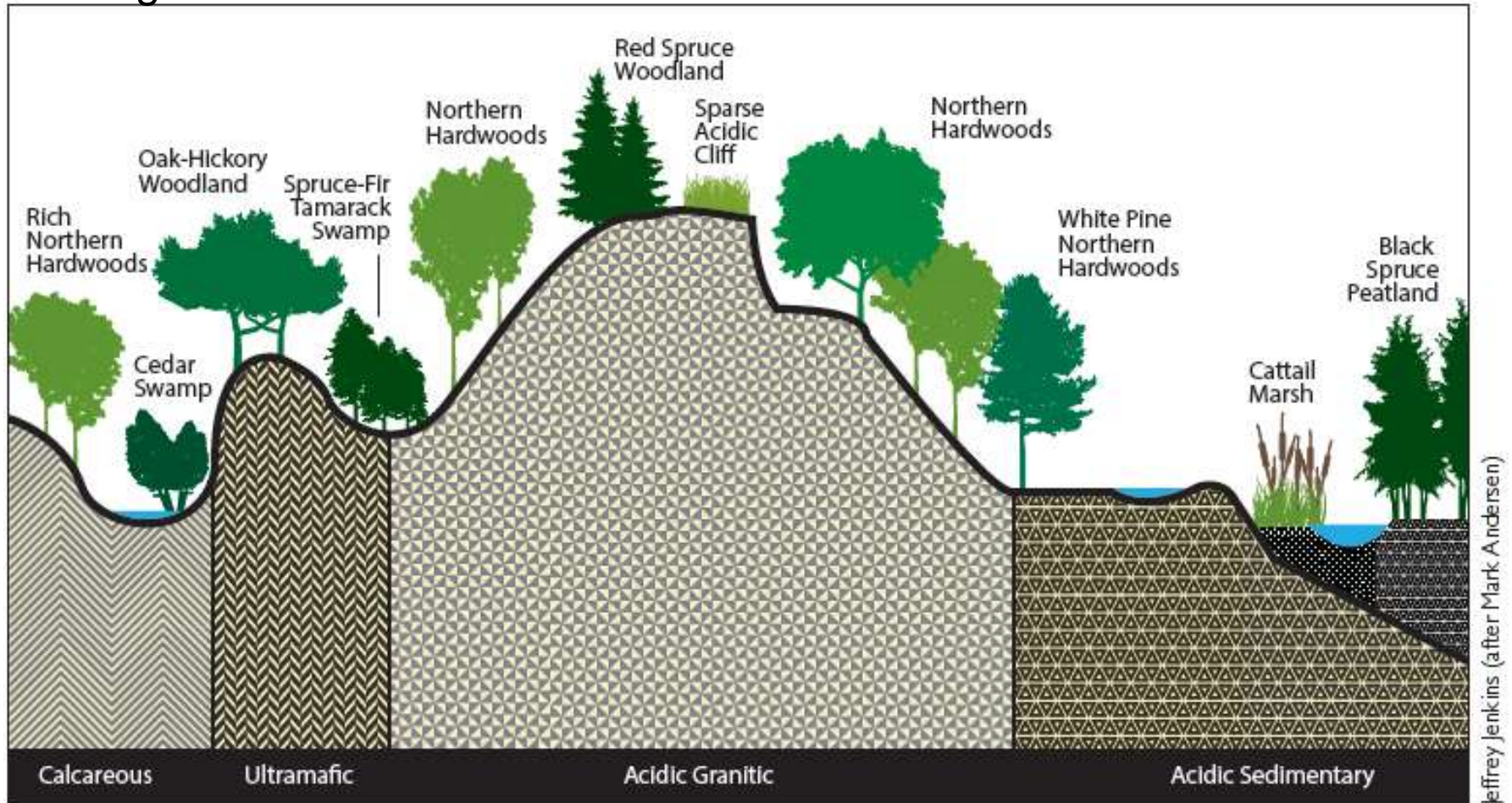
- Limited capacity to adapt
- Disrupted function, low diversity
- Few options and alternatives

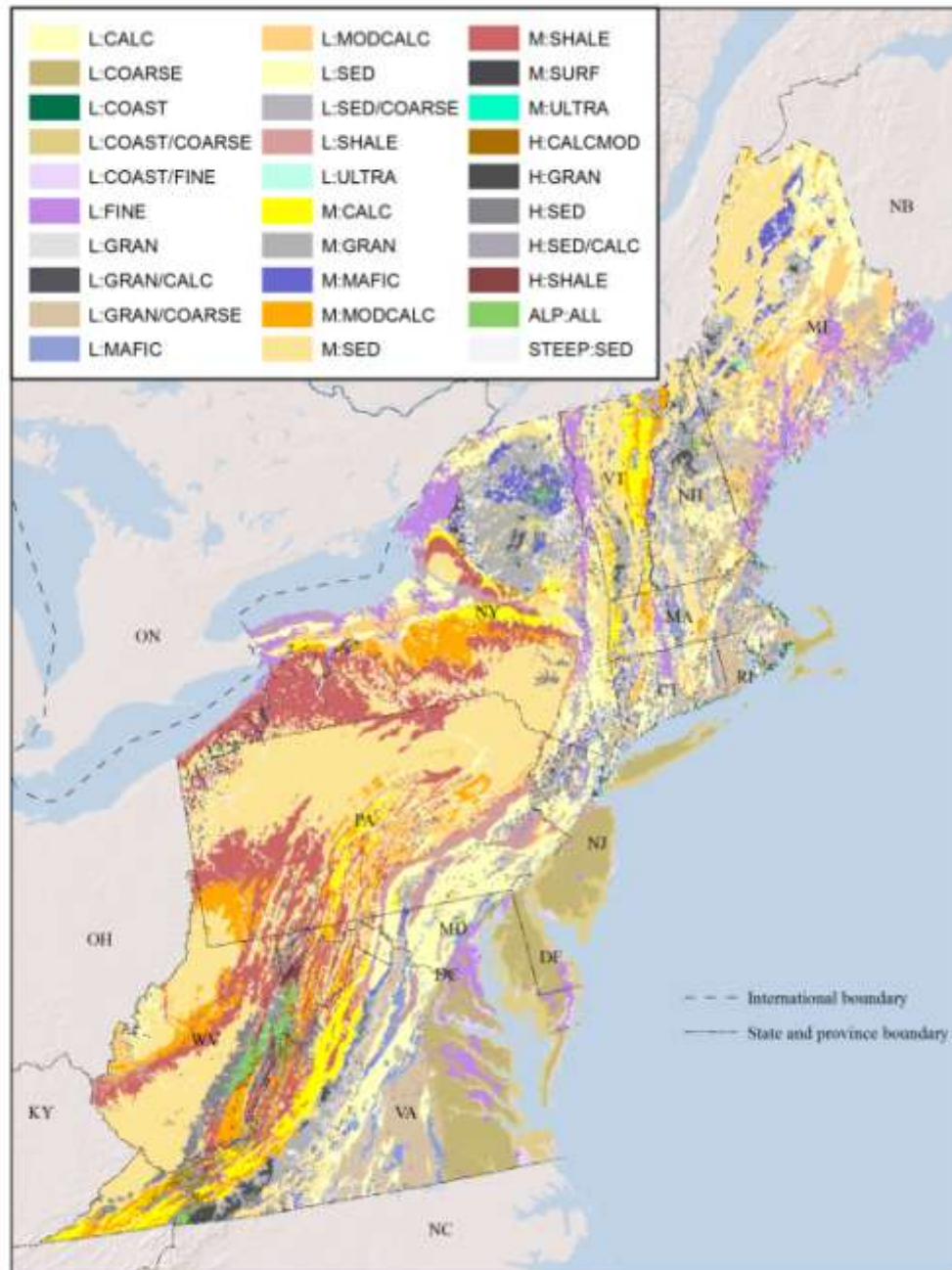
Highly Resilient

- Large capacity to adapt
- Sustain function and diversity
- Many options and alternatives

Terrestrial Resiliency:

Complex Landforms in a Connected Landscape with a Diversity of Settings





Northeast Geophysical Setting

- Geology & Elevation
- 30 categories

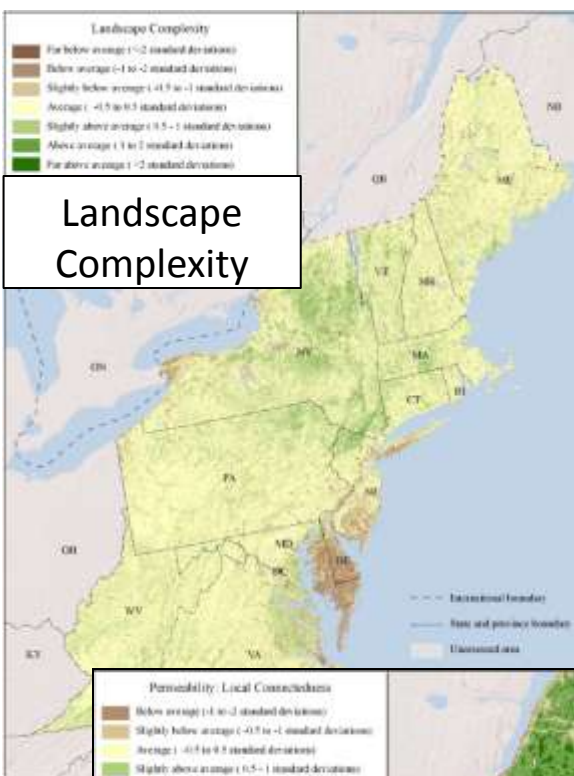


Bicknell's Thrush

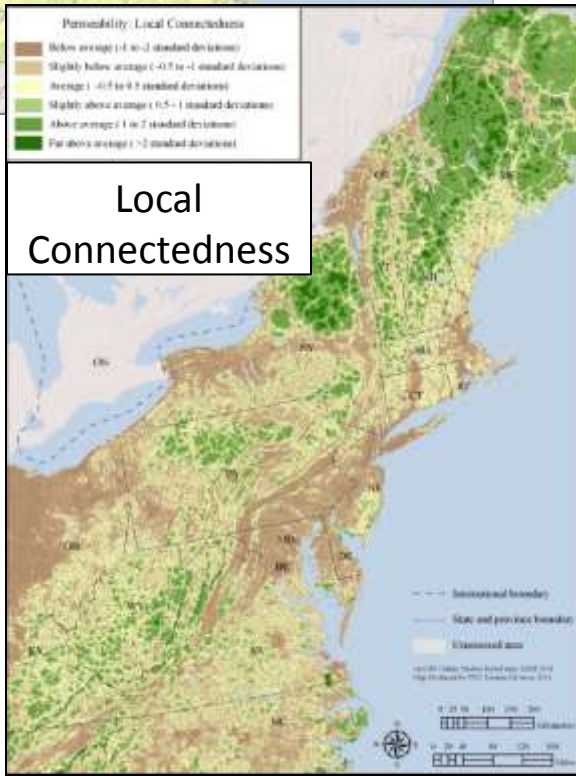


Resilience

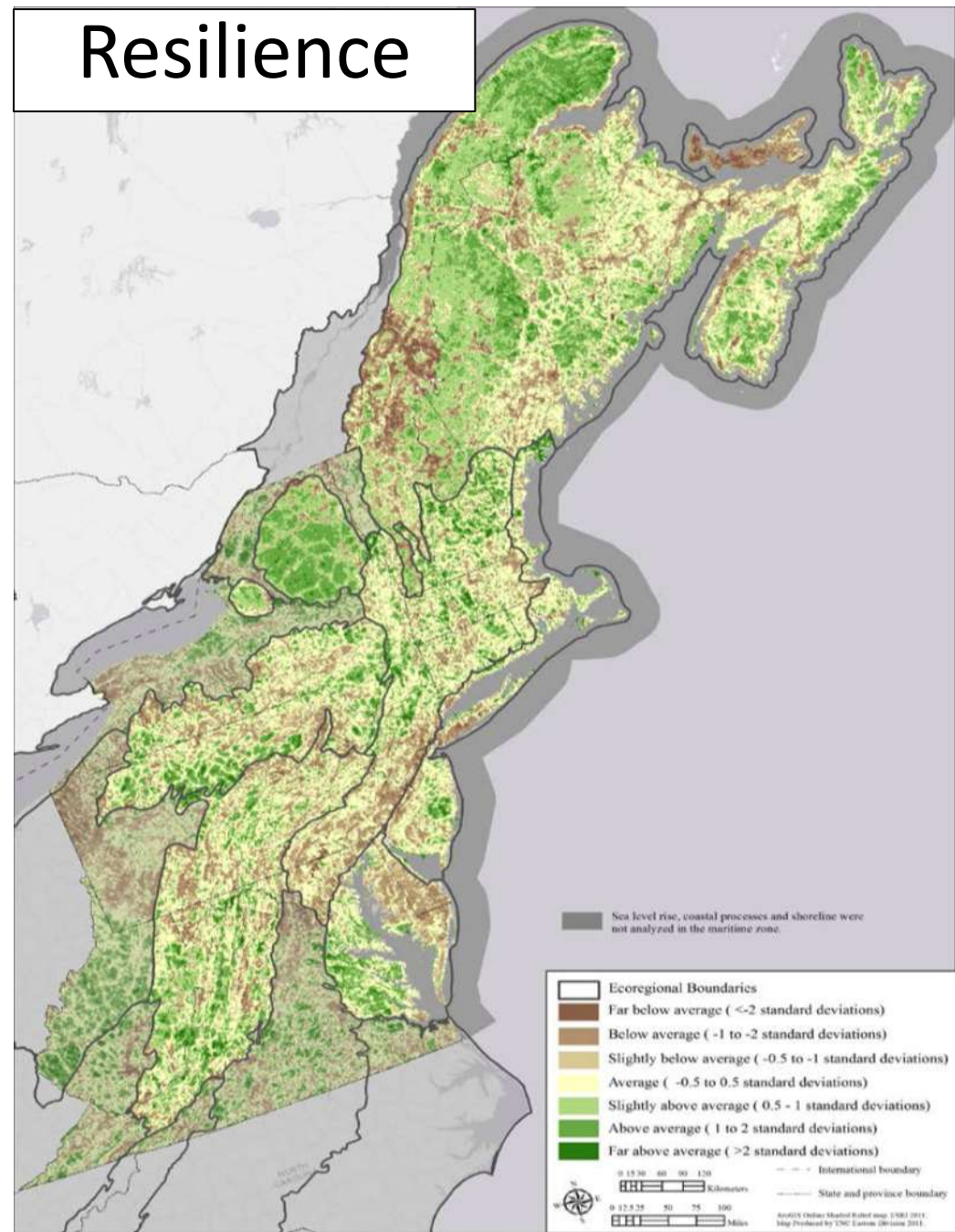
Landscape
Complexity

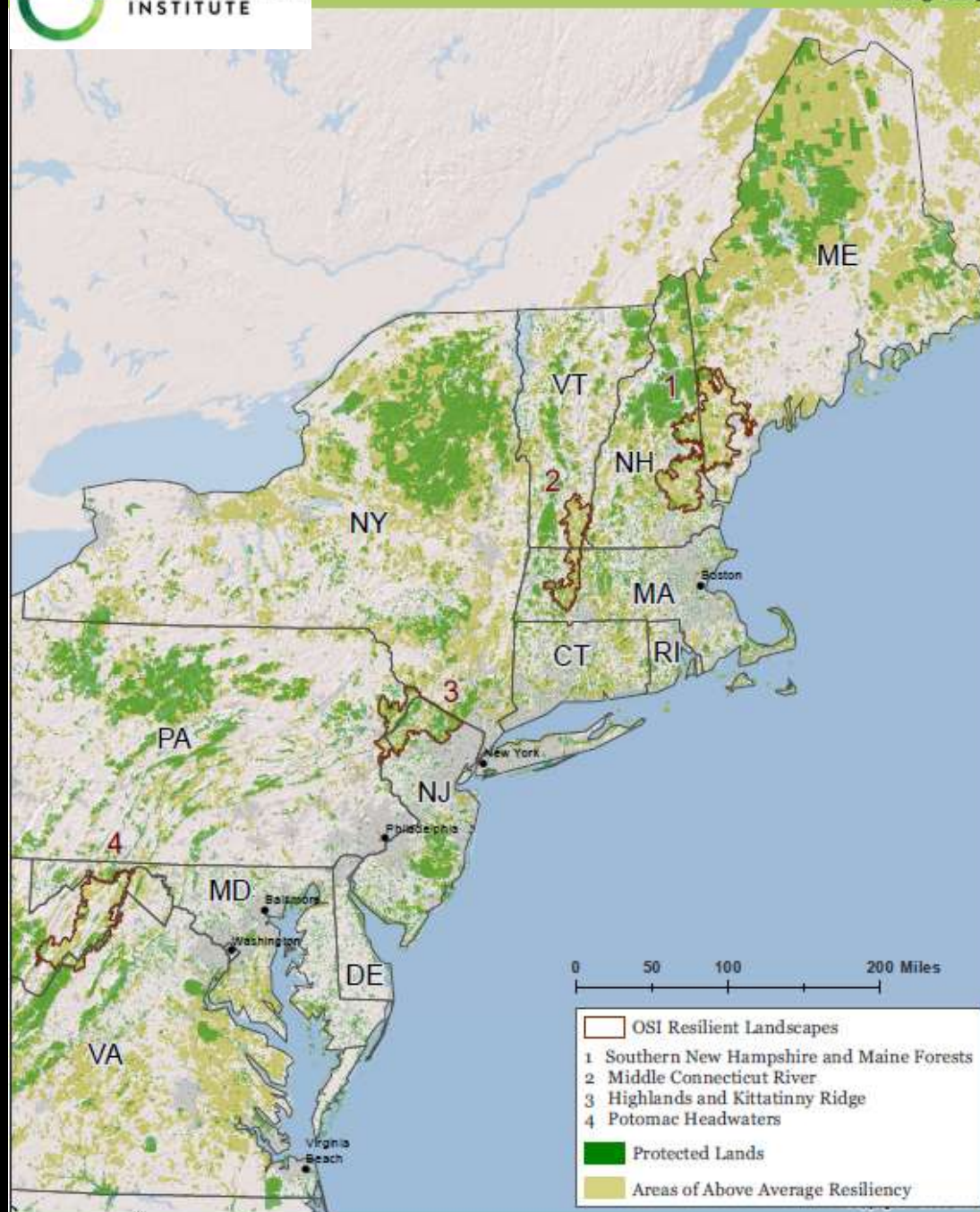


Local
Connectedness

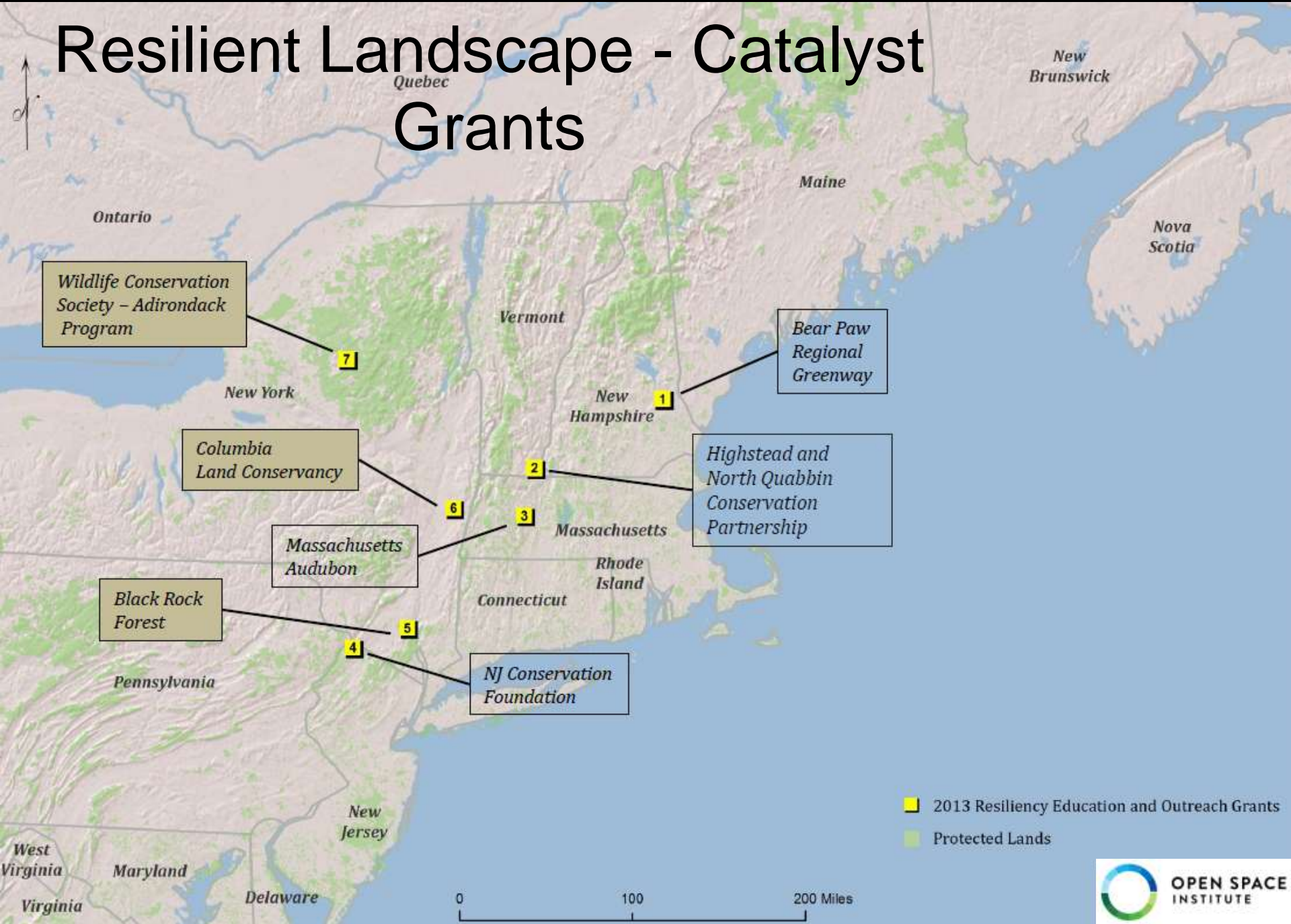


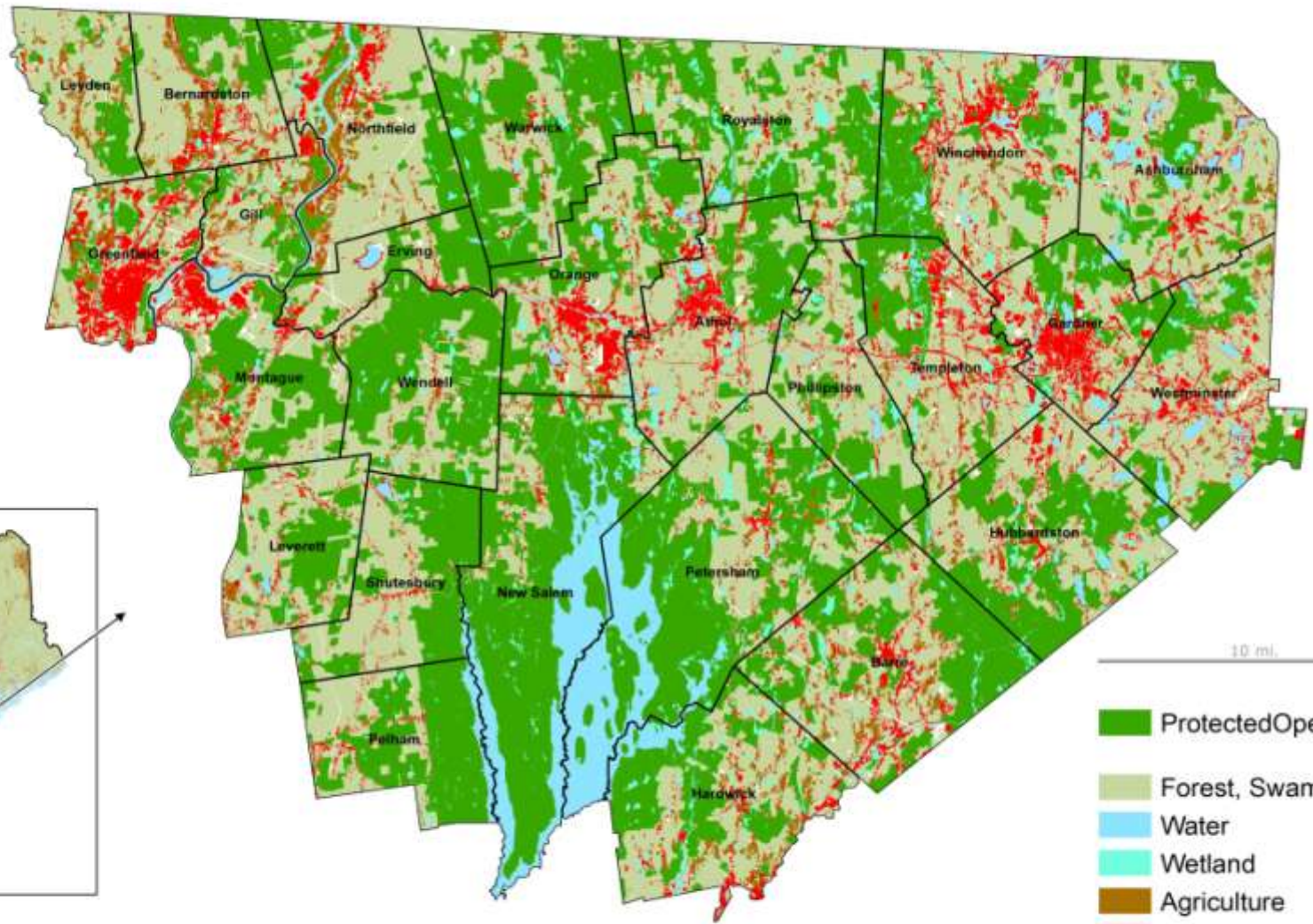
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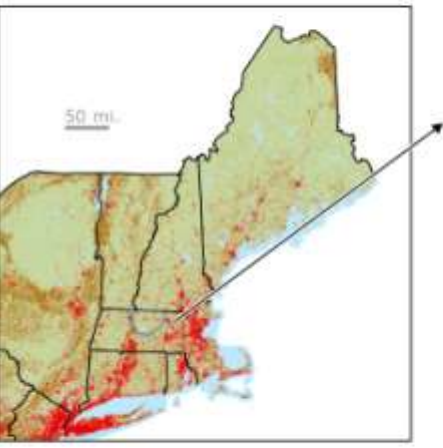


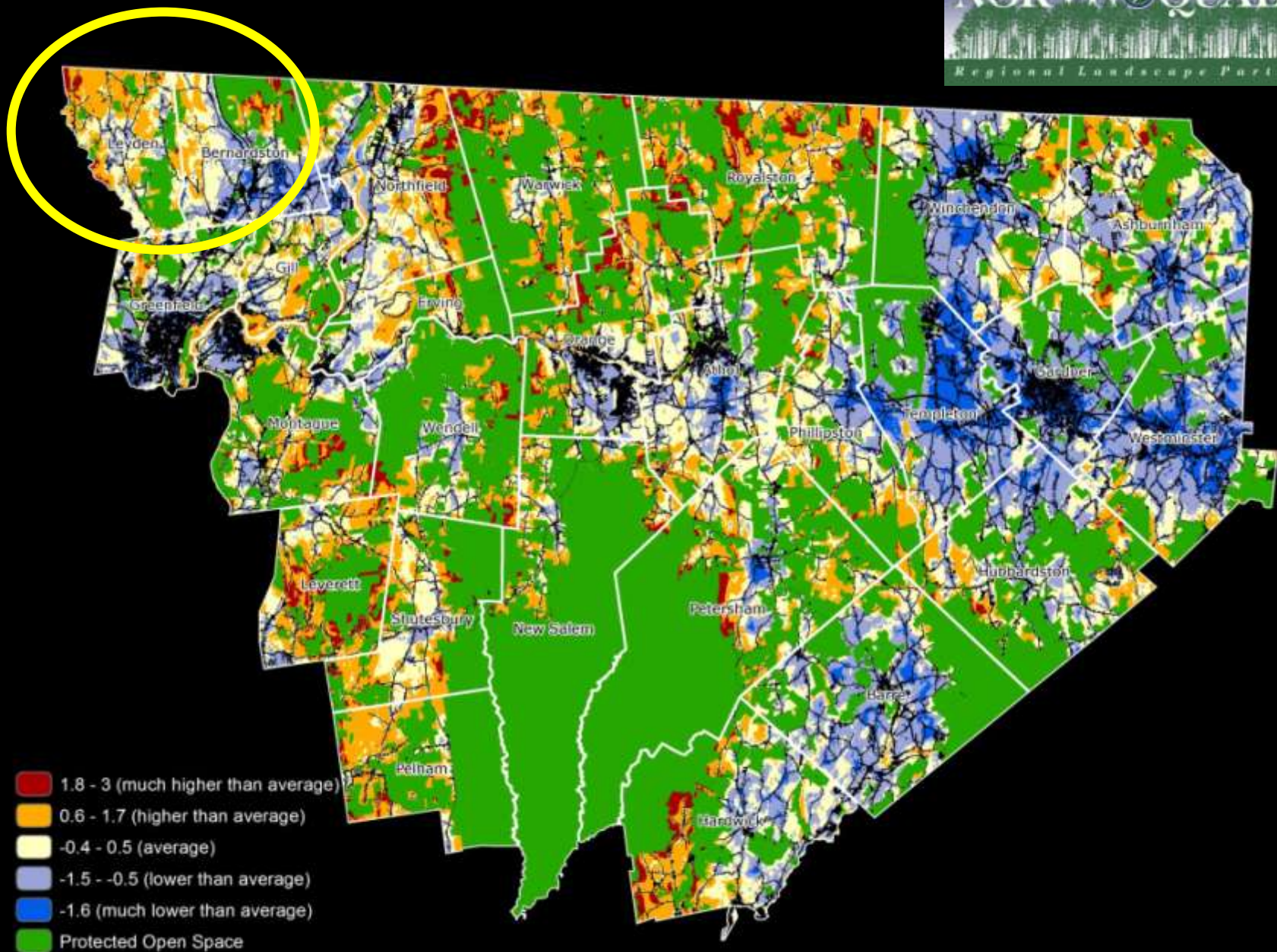
Resilient Landscape - Catalyst Grants





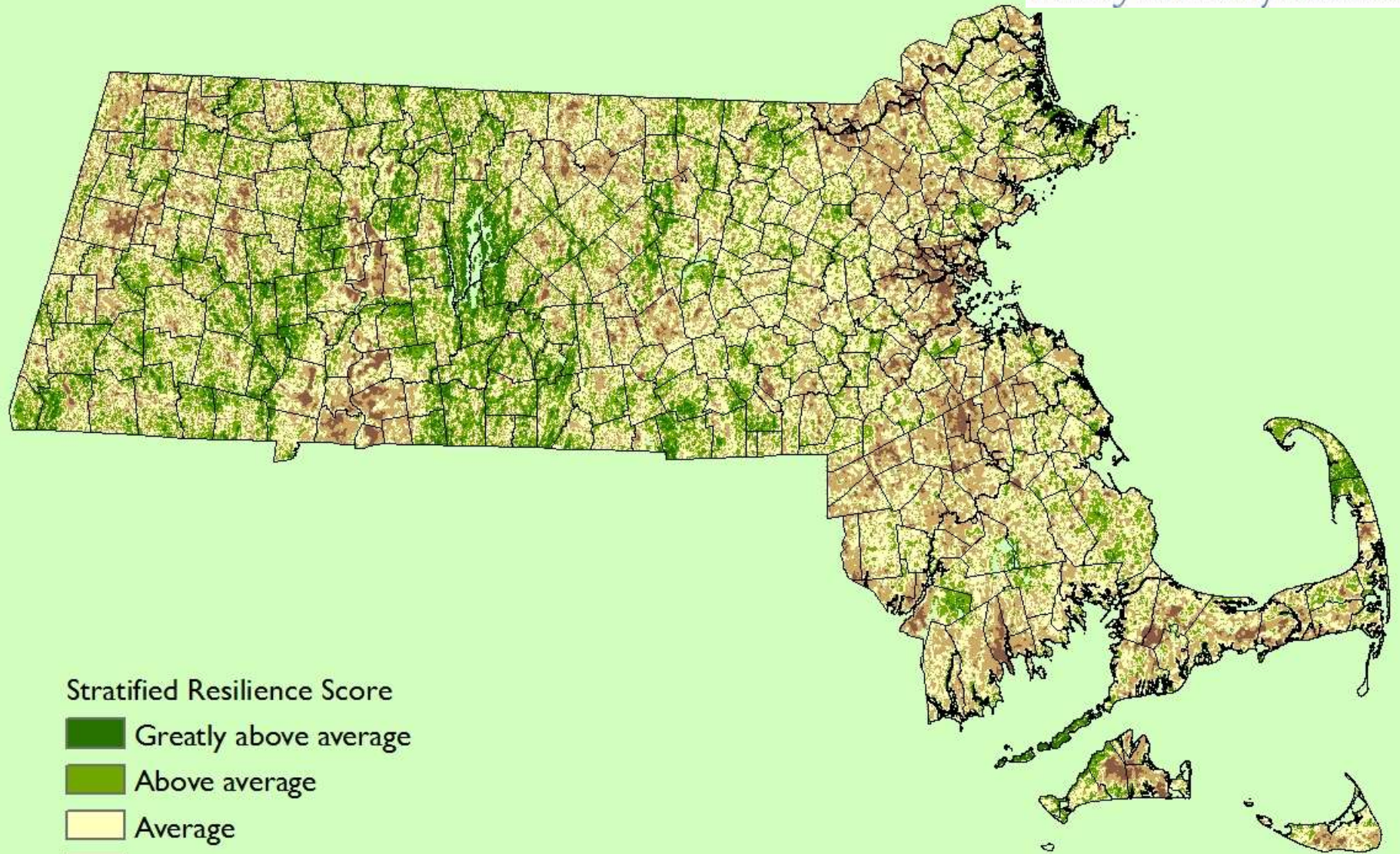
- Protected Open Space
- Forest, Swamp
- Water
- Wetland
- Agriculture
- Developed










- 1.8 - 3 (much higher than average)
- 0.6 - 1.7 (higher than average)
- -0.4 - 0.5 (average)
- -1.5 - -0.5 (lower than average)
- -1.6 (much lower than average)
- Protected Open Space

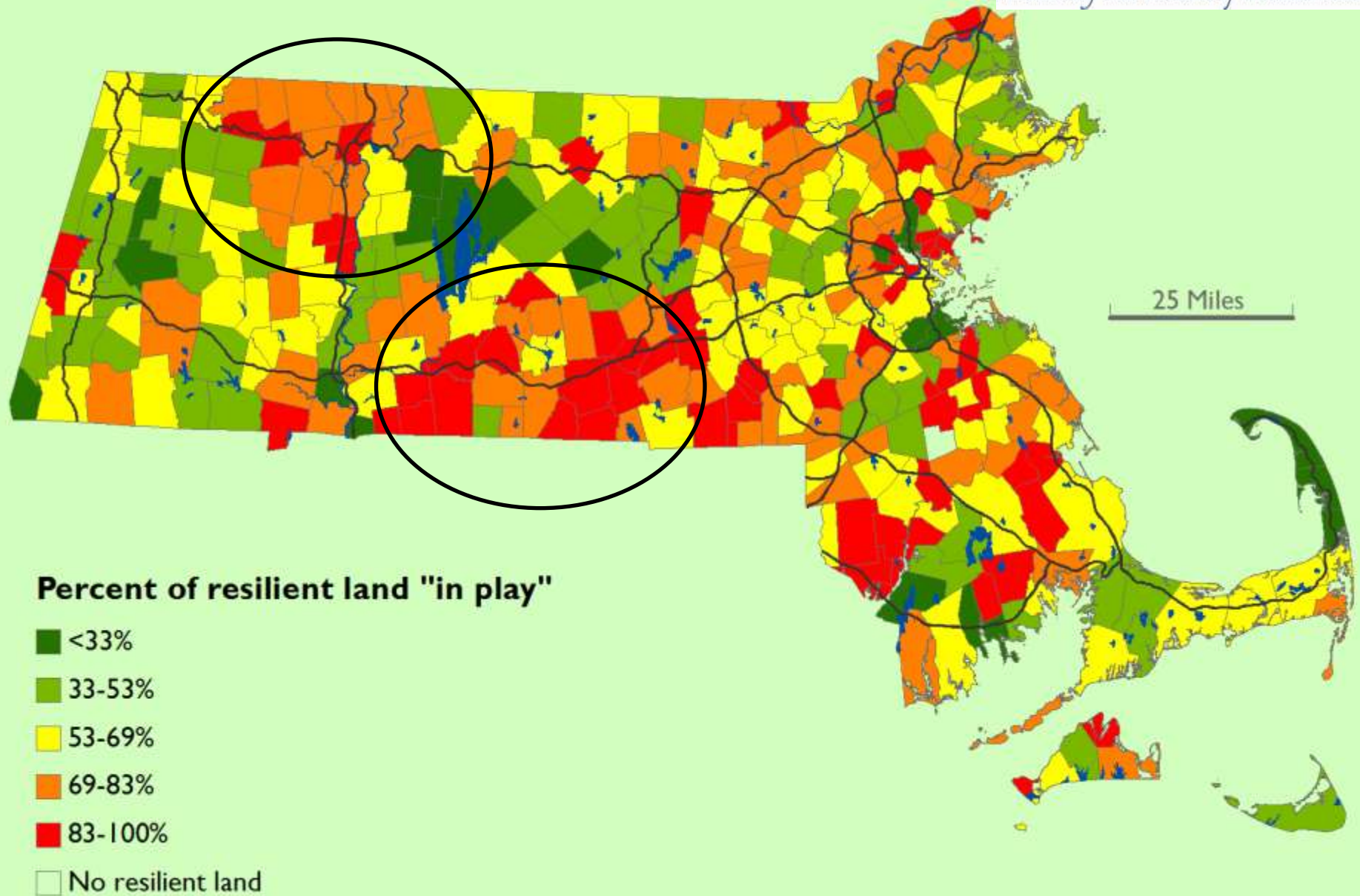
TNC Climate Change Resilience



Stratified Resilience Score

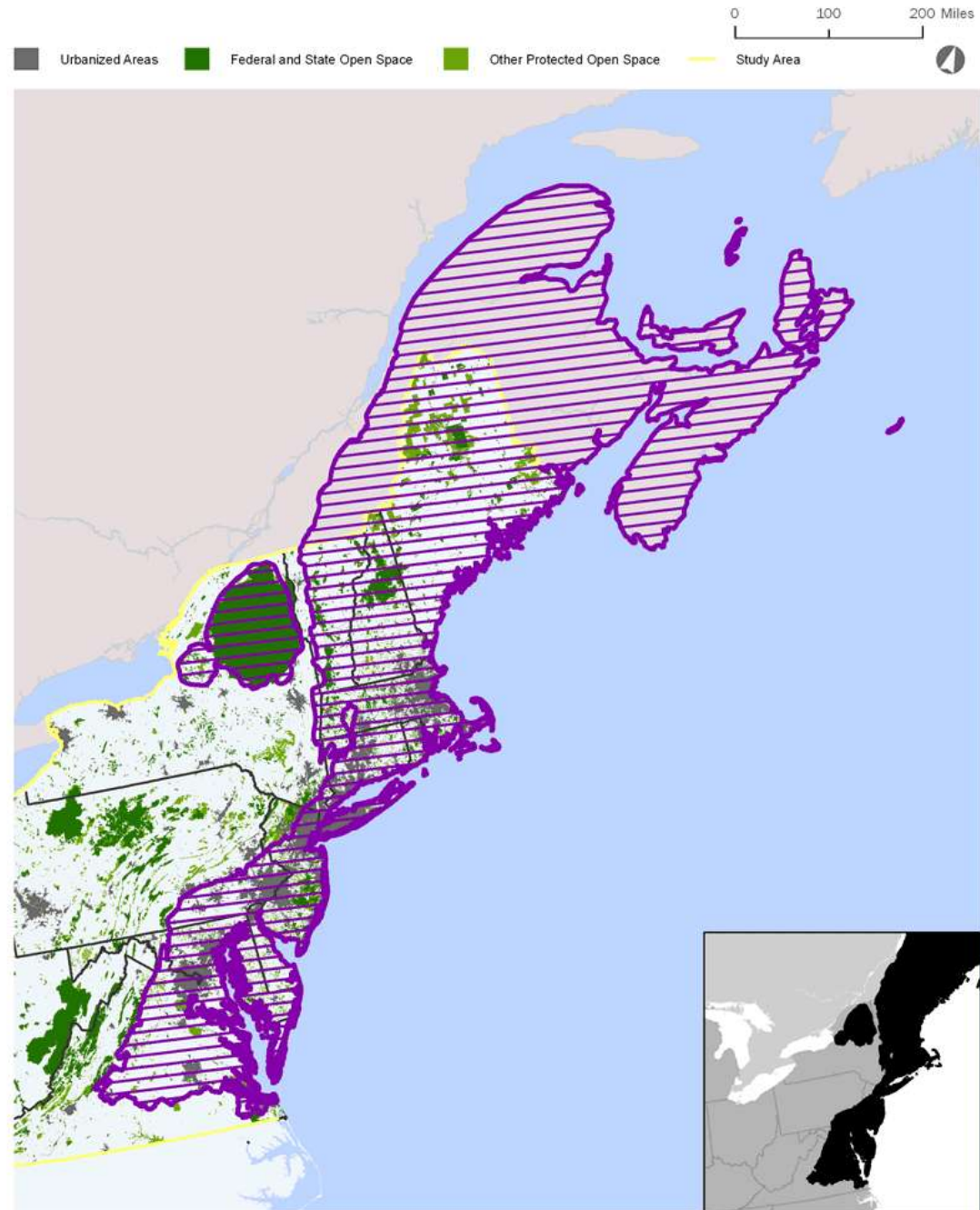
-  Greatly above average
-  Above average
-  Average
-  Below average
-  Greatly below average

Many Resilient Lands Remain Vulnerable



- *Guidance Documents*
- *Field Test*
- *Extend Networks*
- *Spread the Word*

North Atlantic Landscape Conservation Cooperative



Resilient Landscape Initiative

- *Help ensure that the land we protect today will be important for wildlife tomorrow, given the pace and uncertainty of climate change.*
- *Capital Grants – in selected Northeastern & Mid-Atlantic landscapes and coming to SE this summer.*
- *Catalyst Grants – NH, ME, NY, MA and VT. Coming to SE & Canada this fall. Hopefully mid-Atlantic soon...*
- *Guidance Documents & Networks - Maritimes through Mid-Atlantic*