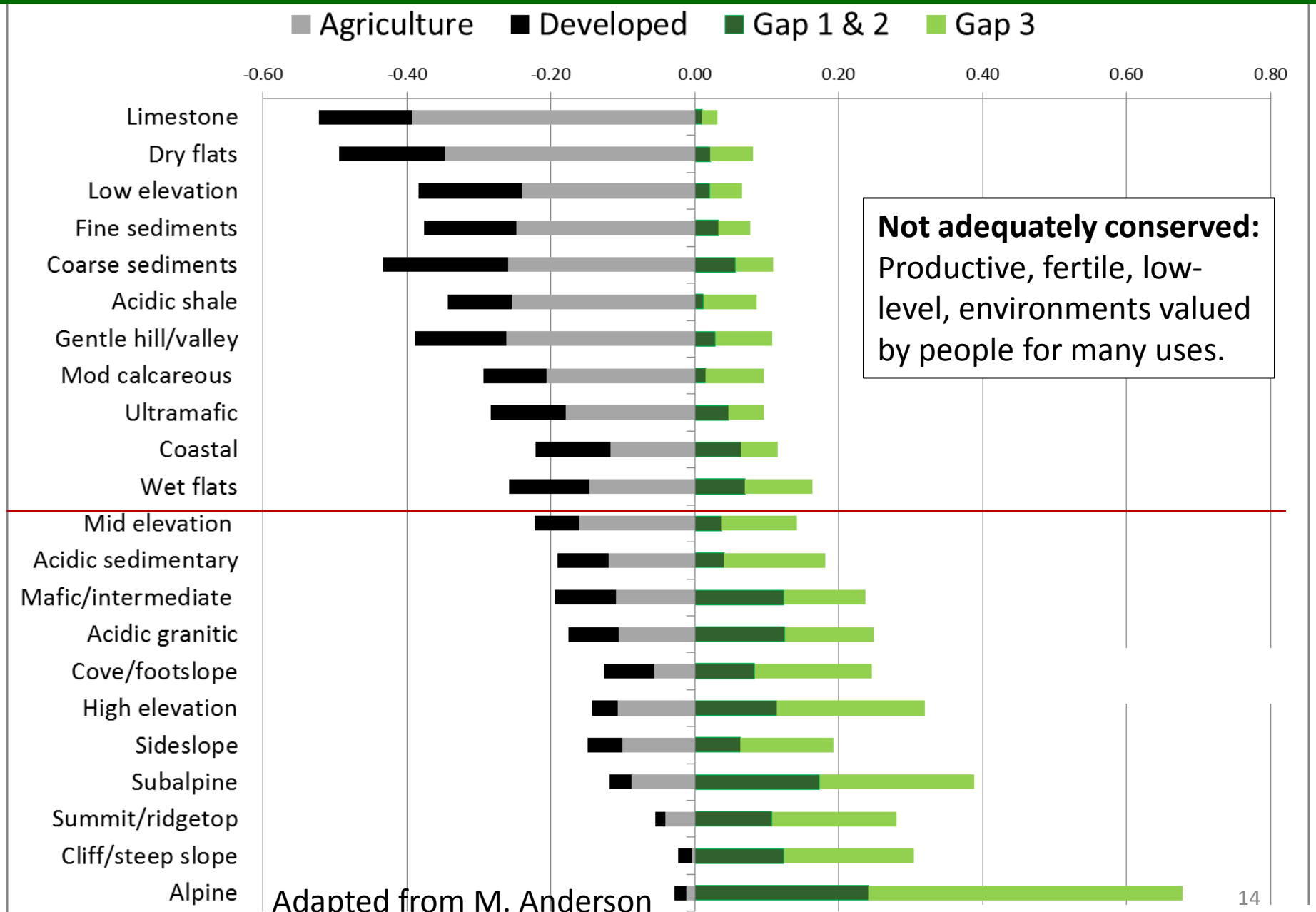
An Important Role for Land Trusts



Not adequately conserved: Productive, fertile, low-level, environments valued by people for many uses.

Adapted from M. Anderson

Based on 24 million acres, 100,000+ tracts

What is a Resilient Landscape?

A resilient landscape maintains ecological function and is likely to sustain a diversity of species even as species composition and ecological processes change.

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

Adapted from M. Anderson

Ingredients of Resilient Landscapes

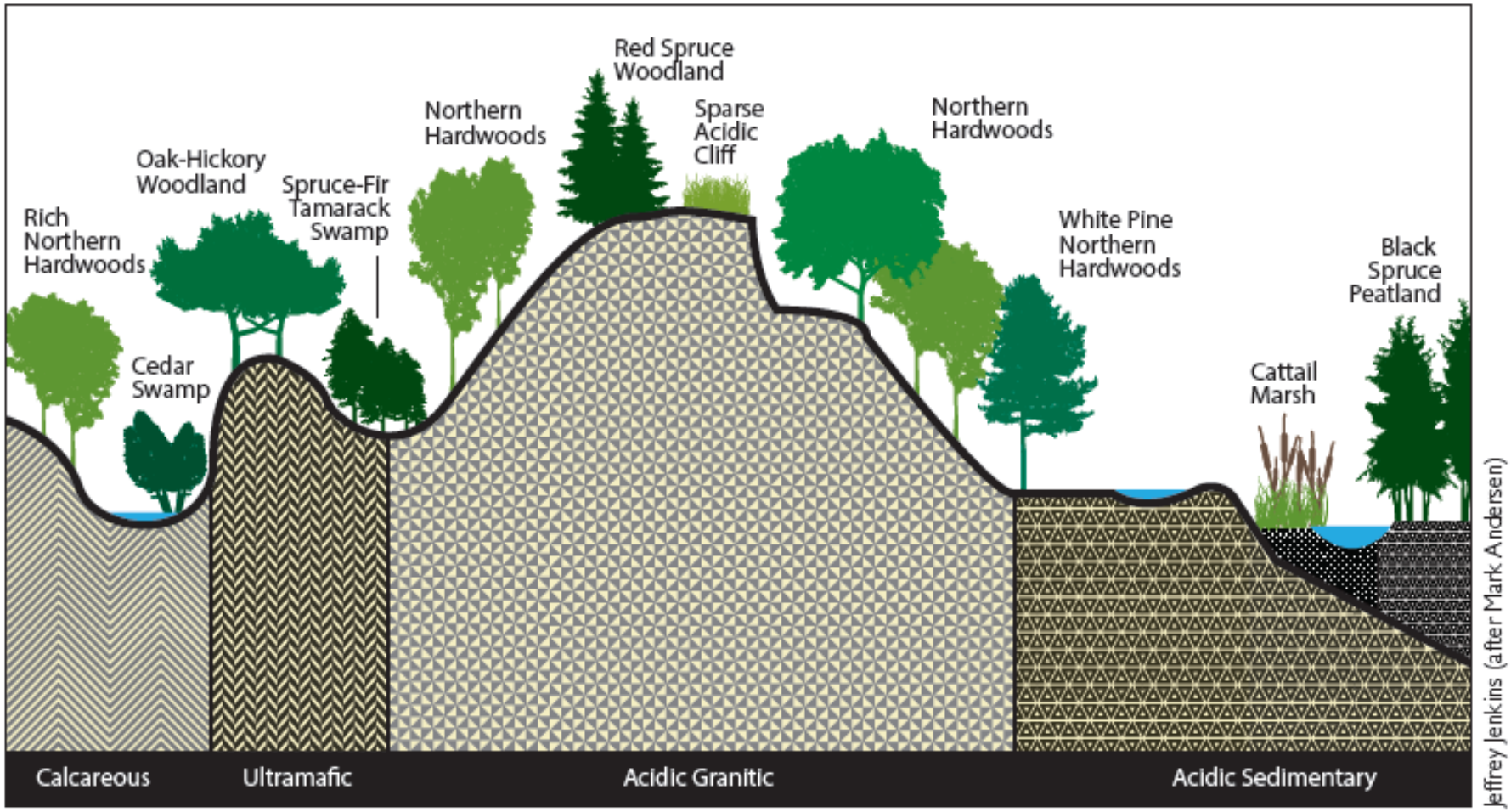
Local Connectedness (Landscape Permeability) -
Connection to similar natural lands

&

Landscape Complexity – Availability of micro-climates based on degree of elevation gradients, topography and wetland extent & diversity.

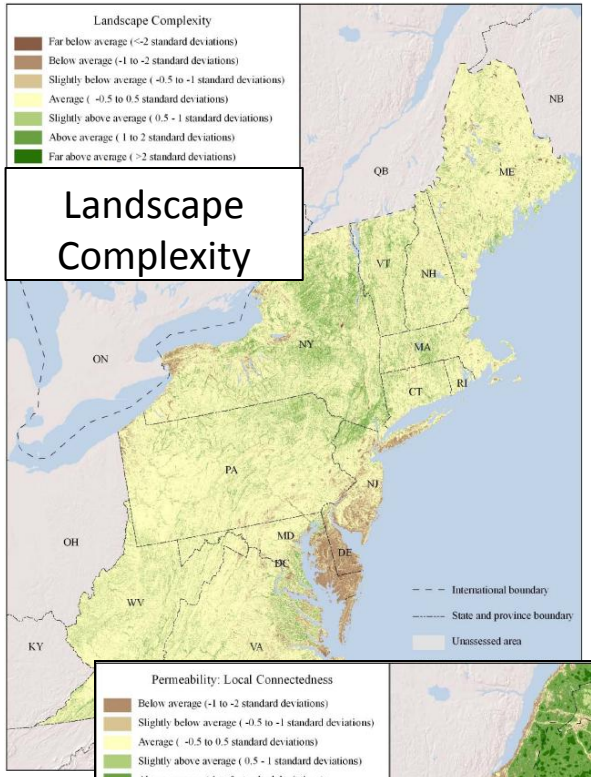
Adapted from M. Anderson

Physical Diversity Equates to Biological Diversity



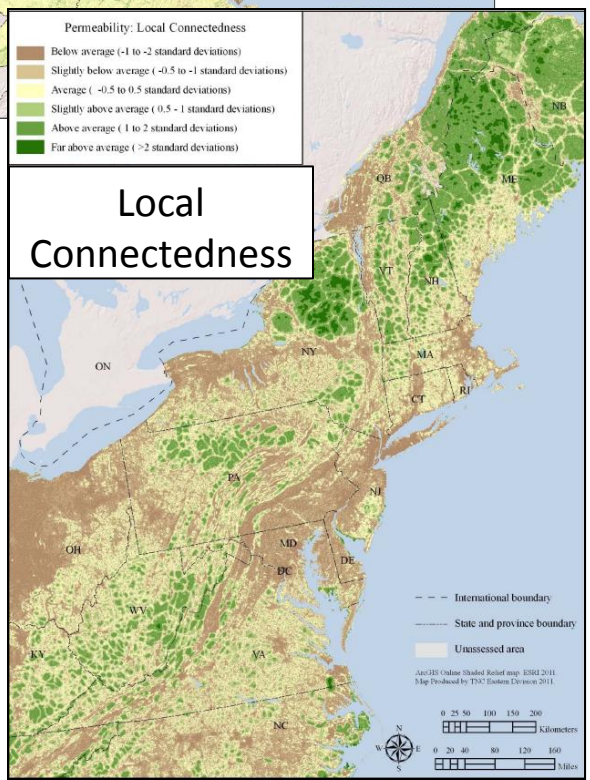
Adapted from M. Anderson

Resilience



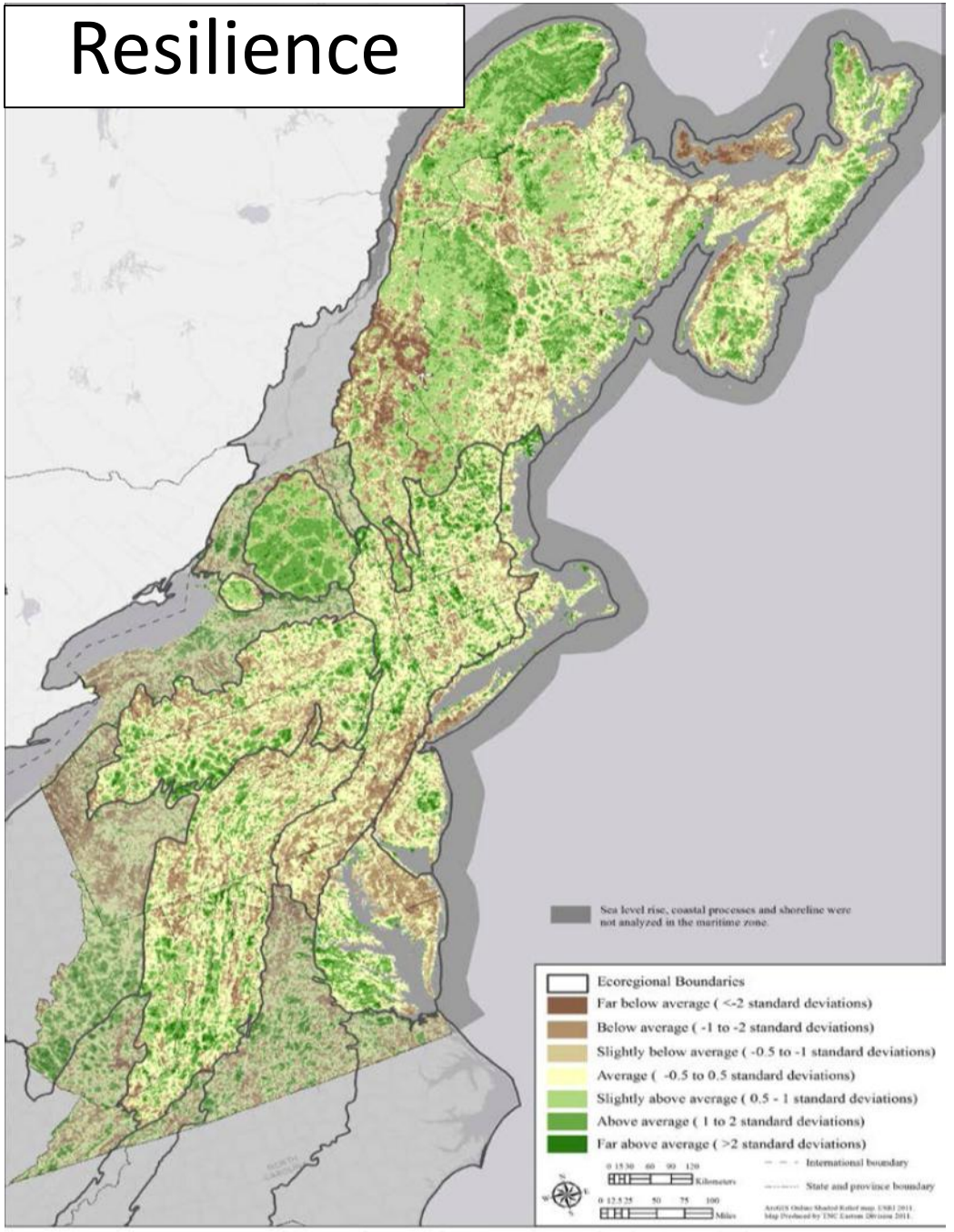
Landscape Complexity

+



Local Connectedness

=



Regional Terrestrial Resilience Score

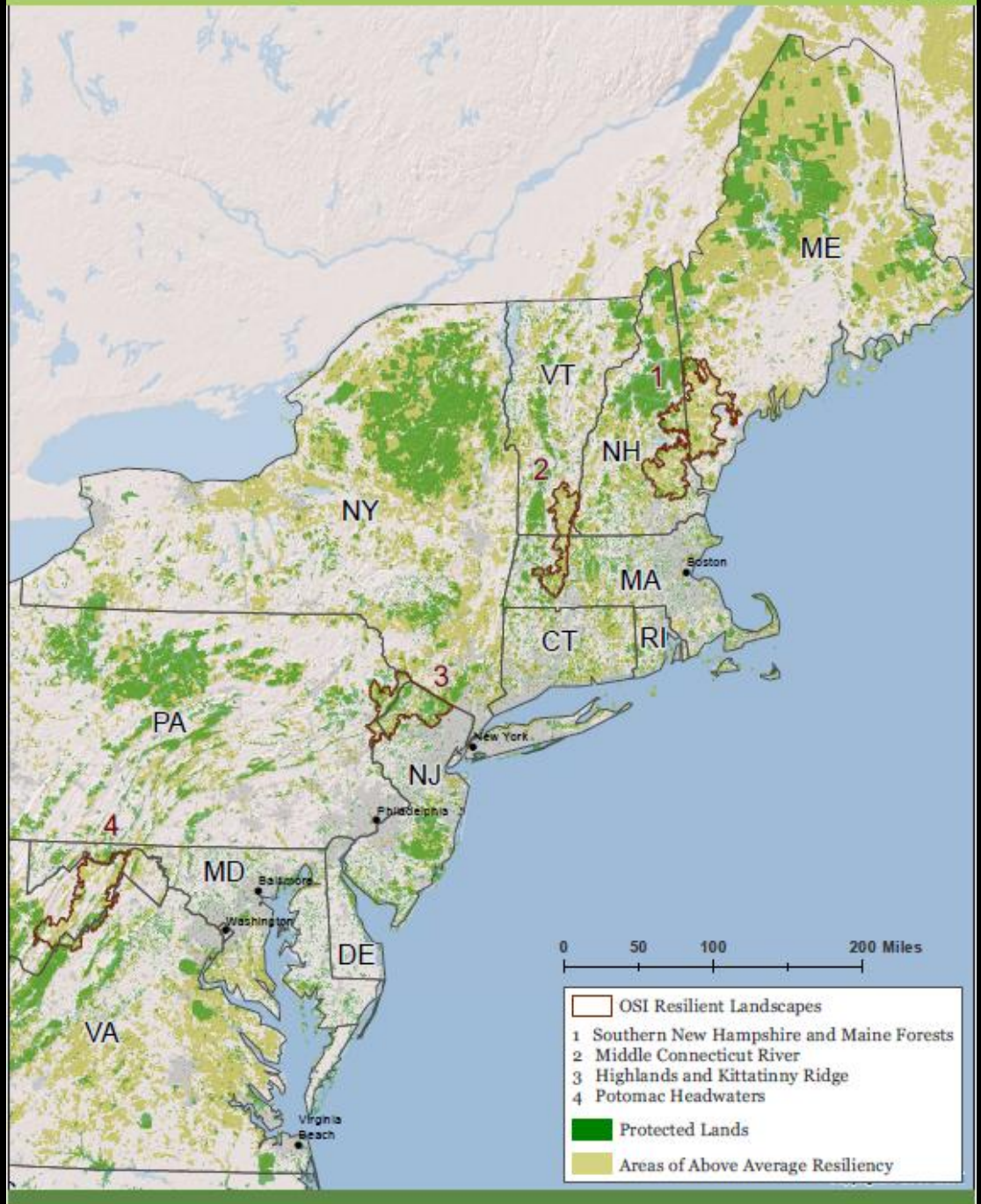
Stratified by Setting and Ecoregion with Regional Override

Adapted from M. Anderson

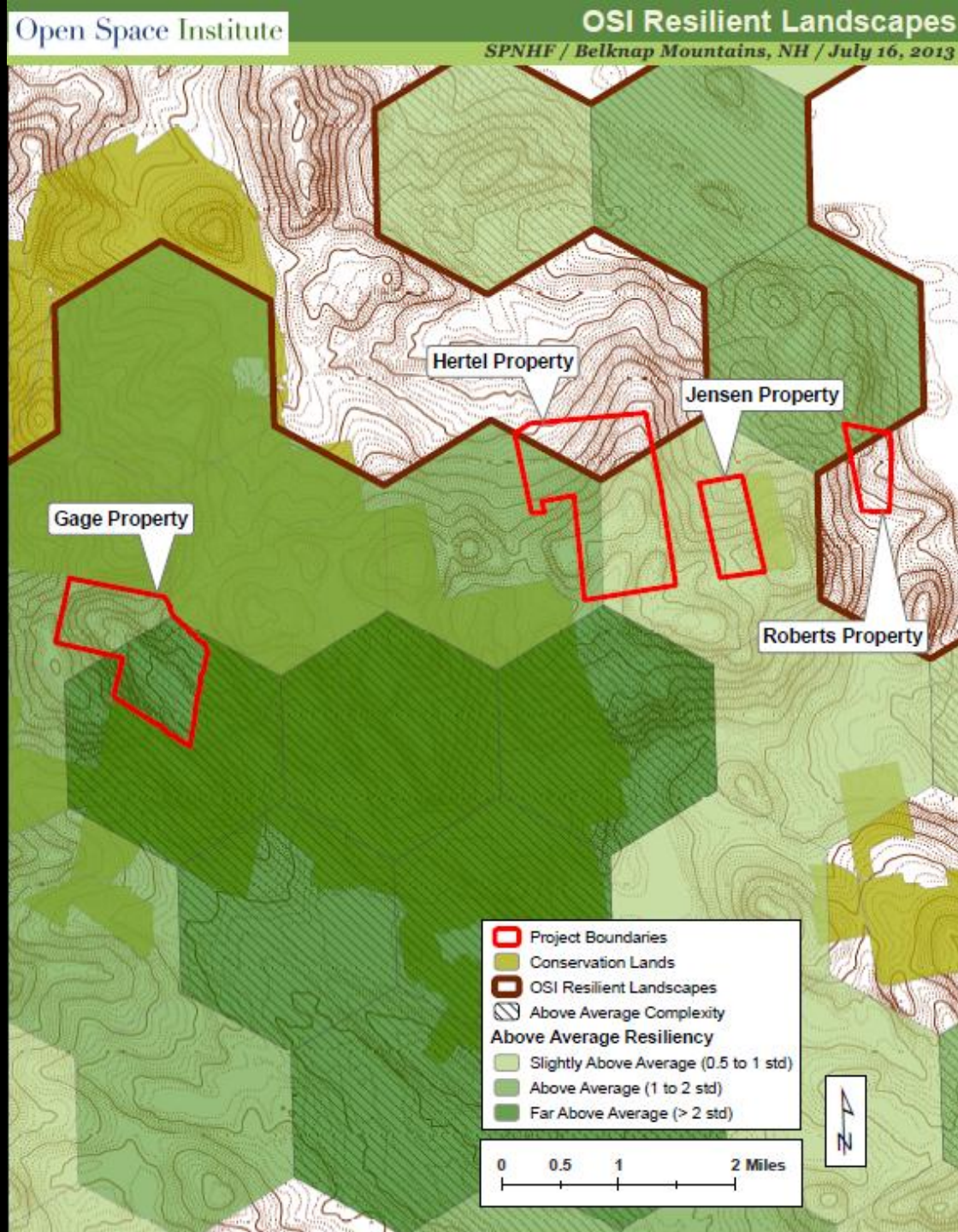
Open Space Institute

OSI Resilient Landscapes

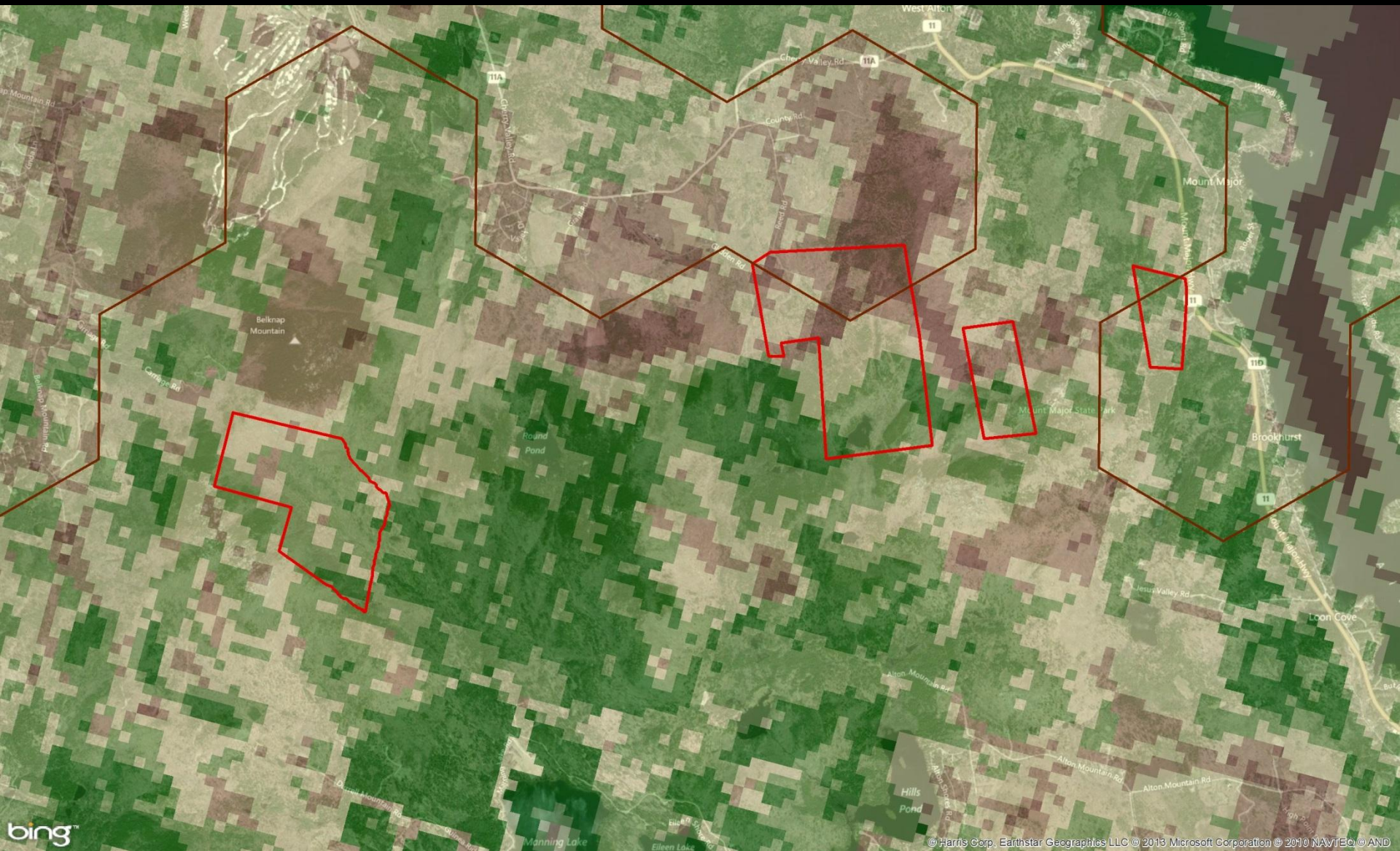
May 2013



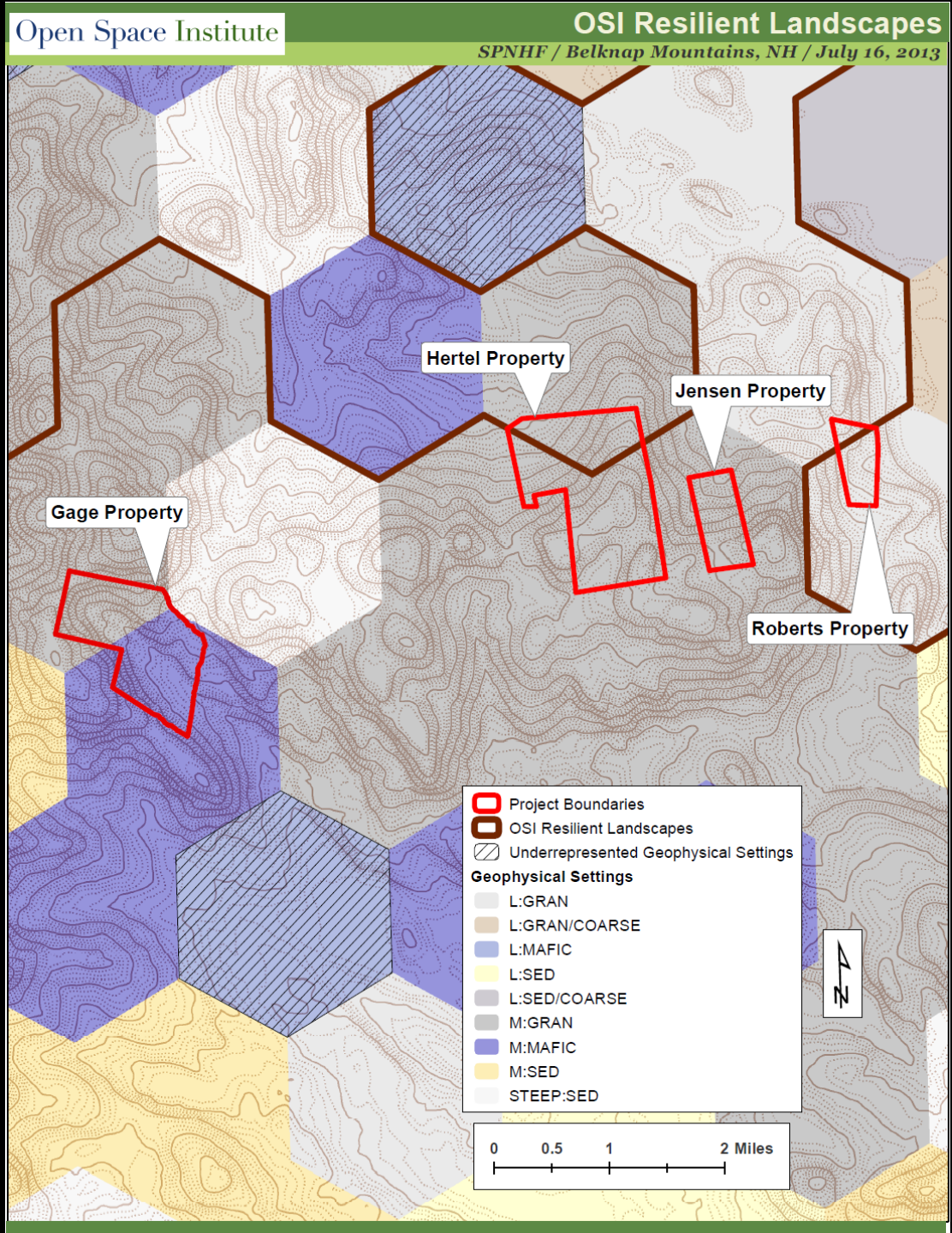
Relative Resiliency Score 1000 acre hexagons



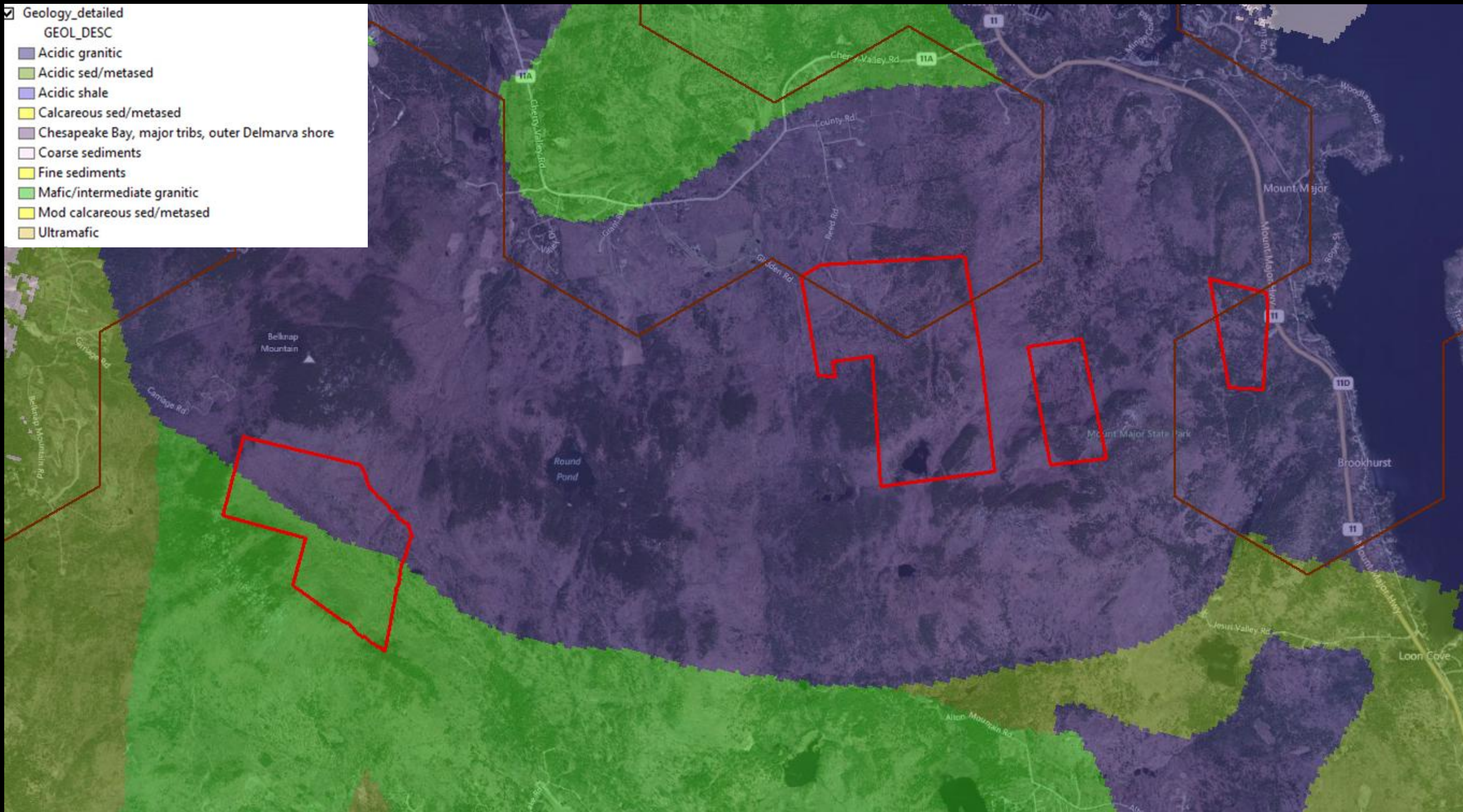
Relative Resiliency Score – 90 Meter Scale



Geophysical Settings – Geology and Elevation 1000 acre hexagons



Geology


Geology_detailed
GEOL_DESC
Acidic granitic
Acidic sed/metased
Acidic shale
Calcareous sed/metased
Chesapeake Bay, major tribs, outer Delmarva shore
Coarse sediments
Fine sediments
Mafic/intermediate granitic
Mod calcareous sed/metased
Ultramafic
Belknap Mountain
Round Pond
Mount Major
Brookhurst
Loon Cove

Components of a Resilient Conservation Plan

- All geophysical settings well represented
- Emphasizing places with high complexity and local connectedness
- Within a well-connected landscape

Some Final Observations

- The science & data is evolving - Aquatic resiliency, SE resiliency, integrating different scales etc.
- Ground truthing the data is key.
- Integrating resiliency concepts as important as using the data.
- Land Trusts have a critical role to play in helping ameliorate climate change impacts in the choices we make.

"To keep every cog and wheel is the first precaution of intelligent tinkering." Aldo Leopold

Open Space Institute

NORTH QUABBIN
Regional Landscape Partnership

Questions

- What are the implications - for your organization – of focusing on the stage (geology, topography, elevation) rather than specific plants and animals?

- Is this new approach relevant to your organization's conservation priorities? If so, how? If not, why not?

- How can land trusts more effectively conserve the less well protected places (i.e. river valleys) where land is more expensive and there is greater intersection with other uses (roads, development)?

- What would your organization need to make this approach to climate change and the data useful? (such as data training, presentation to board, staff, volunteers? GIS capacity?)