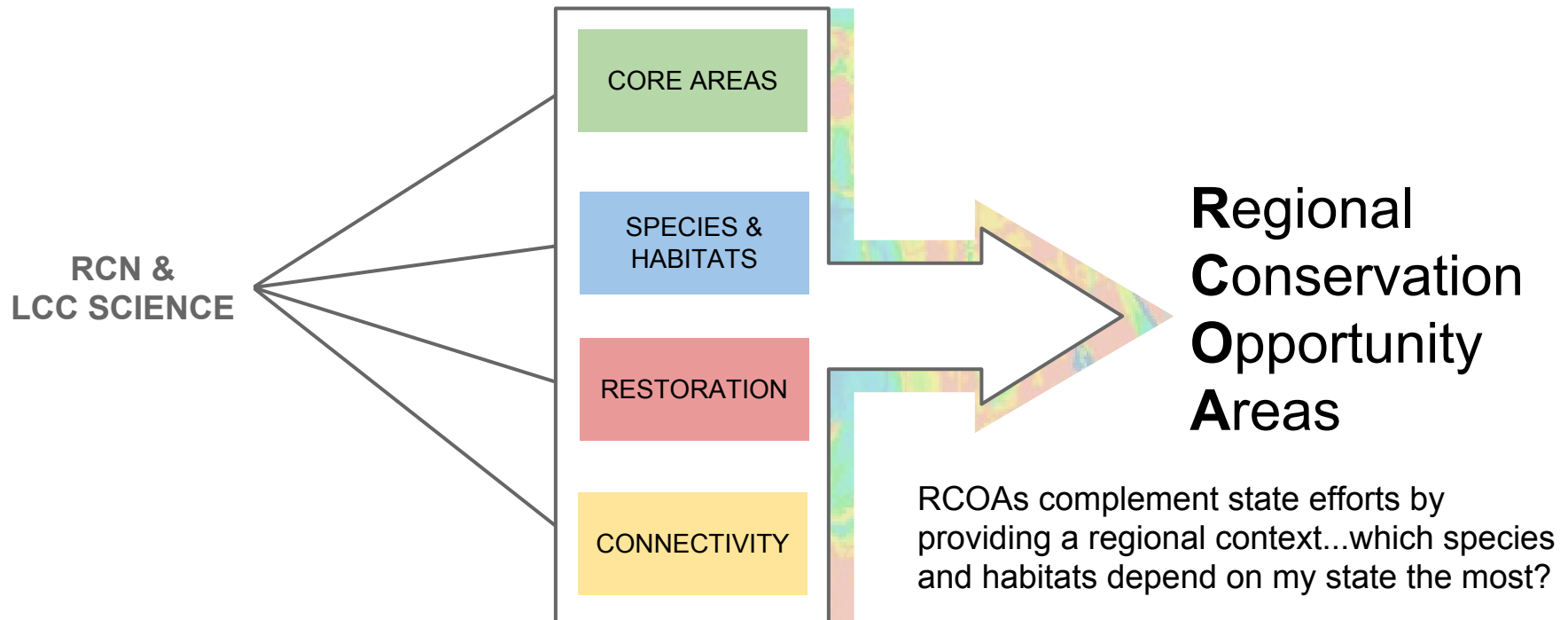


Regional Conservation Opportunity Areas Version 1.0

Overview and update

Vision

RCOAs will identify a **connected** network of **resilient** and **ecologically intact** habitats that will support **biodiversity** under changing conditions



Comparison with Other Projects

DSL	CT River Pilot	Conservation Blueprint	RCOAs & COAs
<p>A project from UMass, Designing Sustainable Landscapes was developed to provide data to assess the capability of current and potential future landscapes, for the Northeast Region. The Index of Ecological Integrity, measures the relative condition of each type of habitat mapped by the Northeast Terrestrial Habitat Classification developed with RCN funds.</p>	<p>The CT River Pilot tested applications of RCN and LCC science and has provided lessons and insight to applications for RCOAs. The pilot draws on data from the the UMASS Designing Sustainable Landscapes project, which is built upon RCN habitat maps.</p>	<p>A collaboratively designed spatial plan for the South Atlantic similar to RCOAs, responding to potential future changes, including sea level rise and climate change, and created to help inform and prioritize conservation decisions and actions in the South Atlantic.</p>	<p>States are developing Conservation Opportunity Areas (COAs) as part of their SWAPs. Regional Conservation Opportunity Areas (RCOAs) will help put local priorities in a regional context by using regional data from RCN & LCC projects. RCOAs will complement COAs.</p>

Overview

Leveraging investments

Inclusive collaboration

Relevant science

Better implementation

RCN &
LCC
SCIENCE

CORE AREAS

SPECIES &
HABITATS

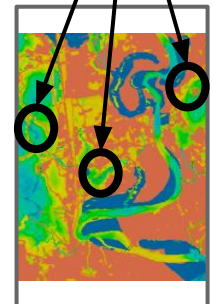
RESTORATION

CONNECTIVITY

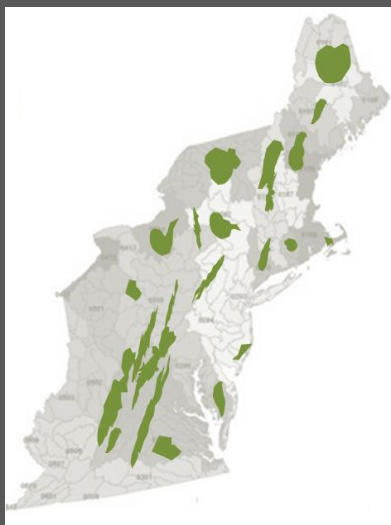
Regional
Conservation
Opportunity
Areas

online data access

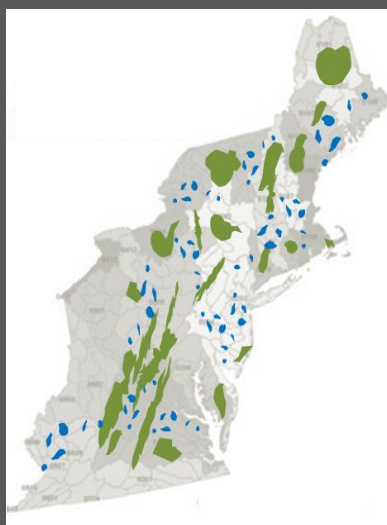
Coordinate
partners for
voluntary
on-the-ground
success



CORE AREAS



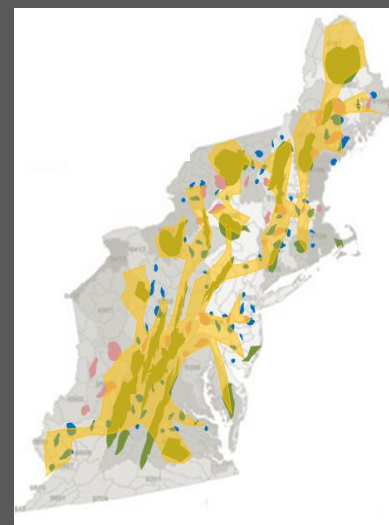
RSGCN HABITATS



RESTORATION

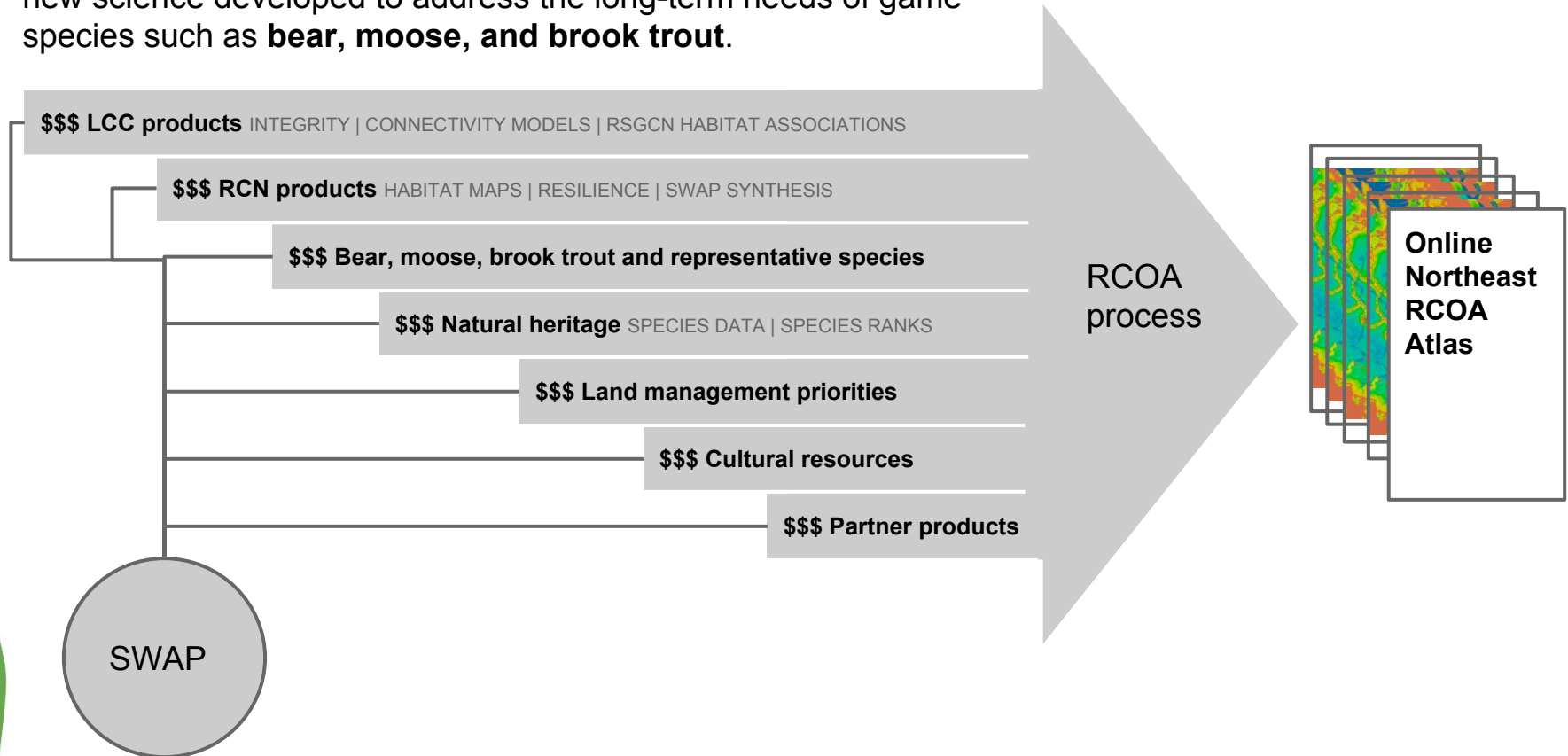


CONNECTIVITY



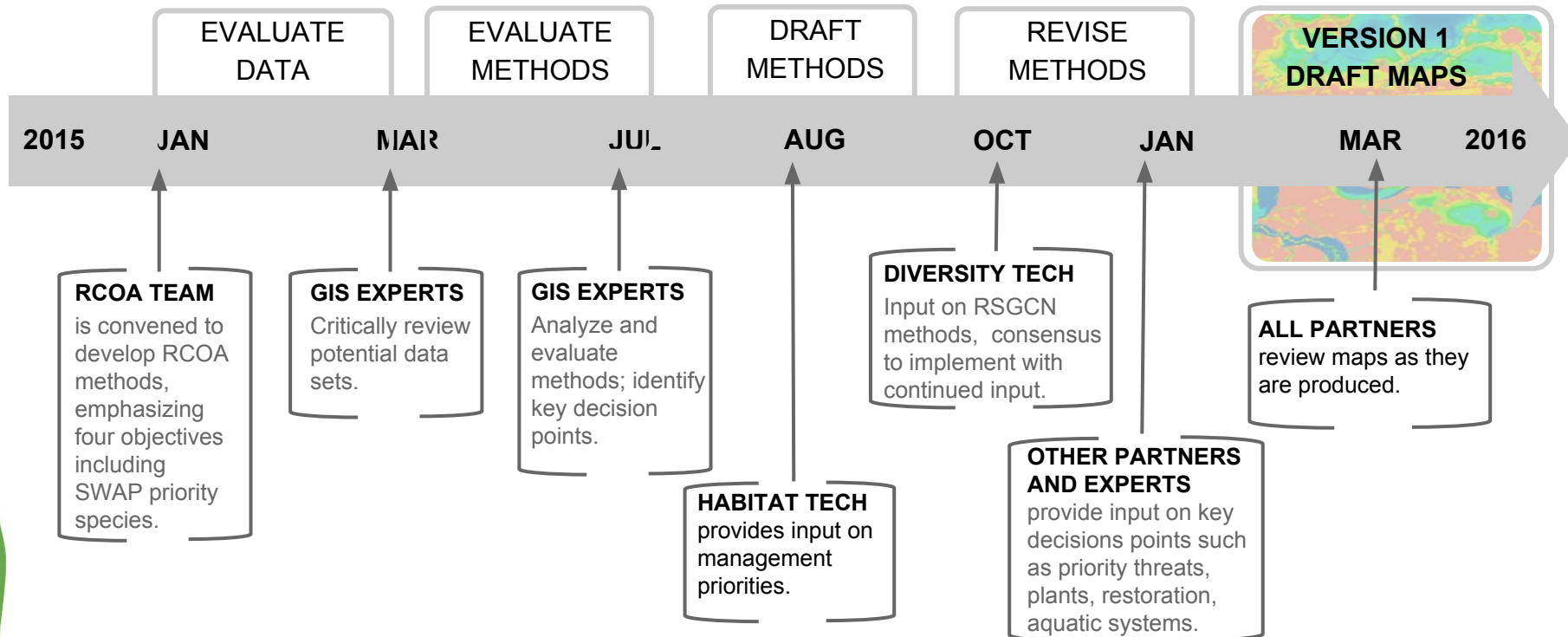
Leveraging investments

The ROCA project is leveraging years of investments by the **RCN Program, LCCs, and Natural Heritage programs**. It is applying new science developed to address the long-term needs of game species such as **bear, moose, and brook trout**.



RCOA

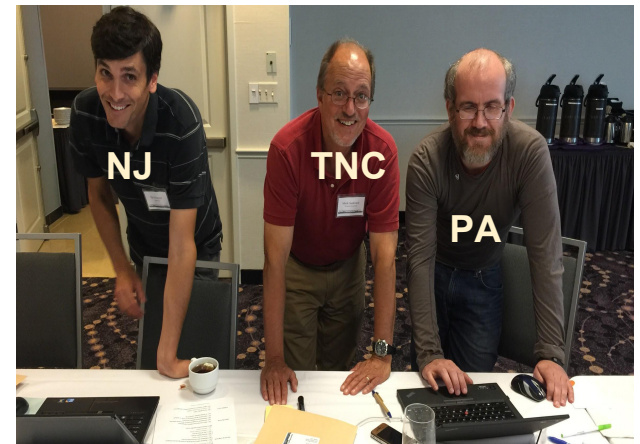
Year in review



Serious collaboration

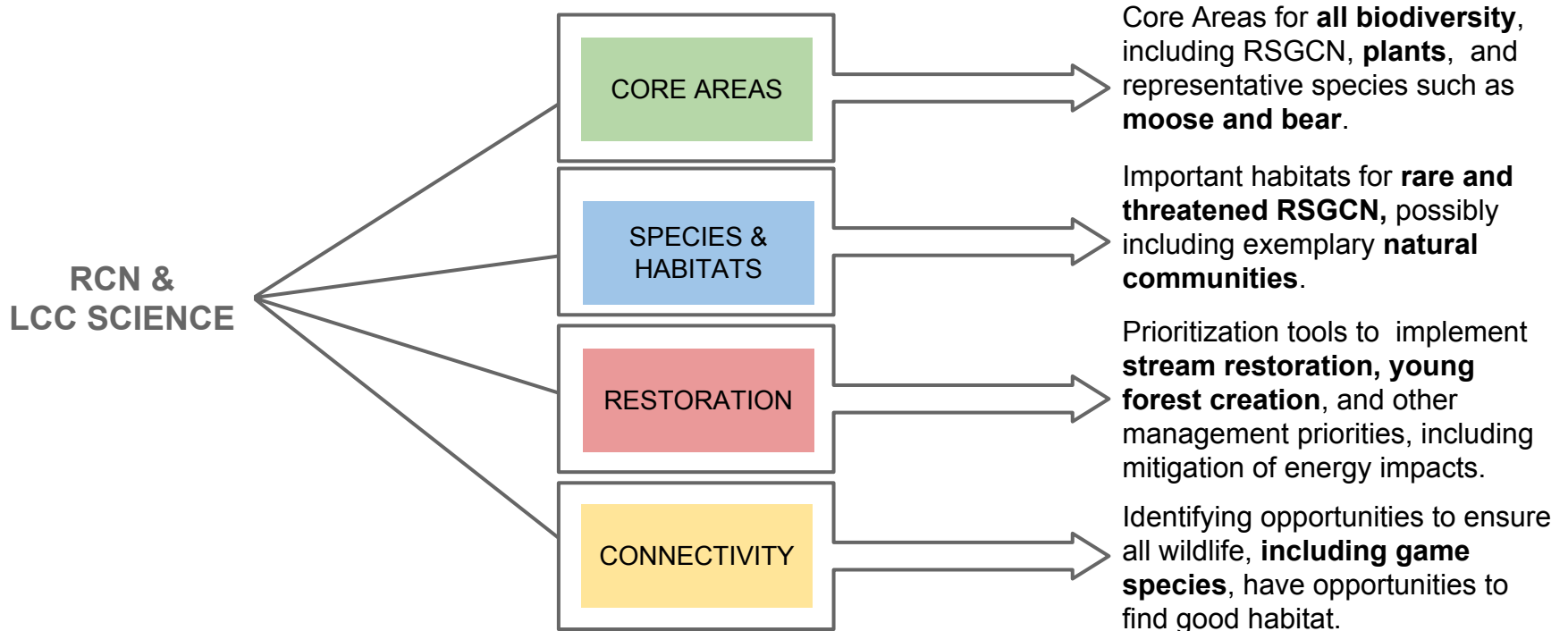
Through the RCOA process the workgroup agrees...

- team members are interactively **exploring and teaching RCN & LCC science**
- RCN & LCC **science is more accessible when staff are engaged** in developing applications
- collaboration is **making sure RCN & LCC science is relevant to states** and others on the ground
- **GIS staff bring learning home** to agencies for day to day use
- **experts and researchers teaching GIS staff about data**
- **engagement of relevant experts** such
as land managers and other state biologists



Relevant Science

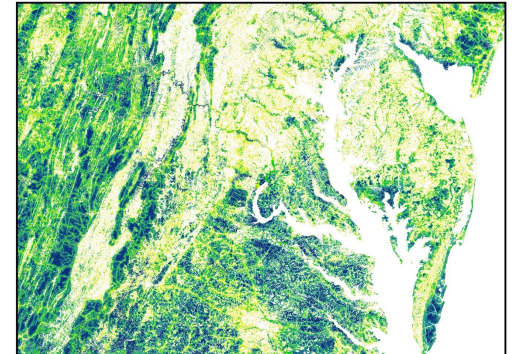
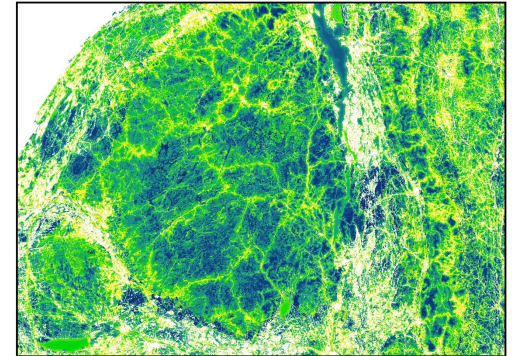
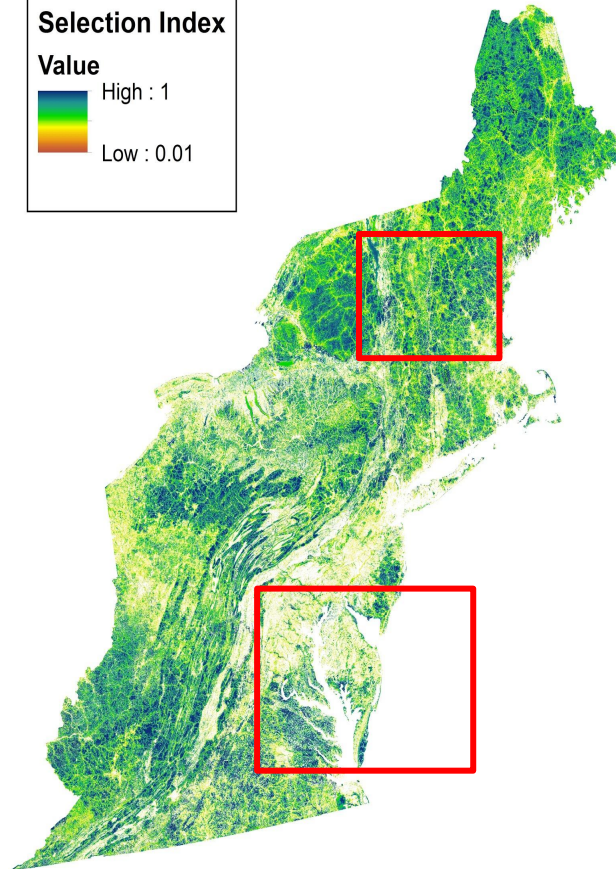
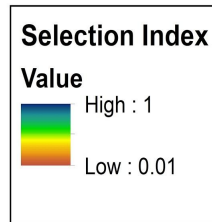
A **connected** network of **resilient** and **ecologically intact** habitats that will support **biodiversity** under changing conditions



Core areas

Core areas analysis will identify land landscapes where we can protect:

- High Ecological Integrity
- High Resilience



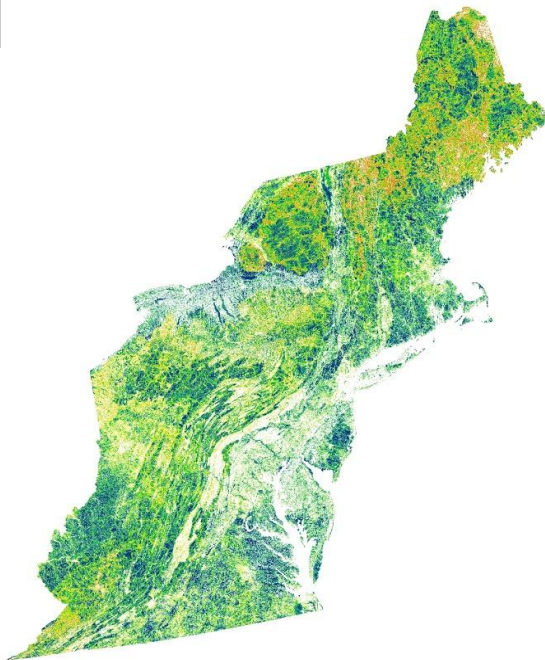
RSGCN habitats

Core areas will be adapted for RSGCN and Biodiversity

Weighted for RSGCN

Unweighted

Weighted for Cores



IEI



High : 100

Low : 1

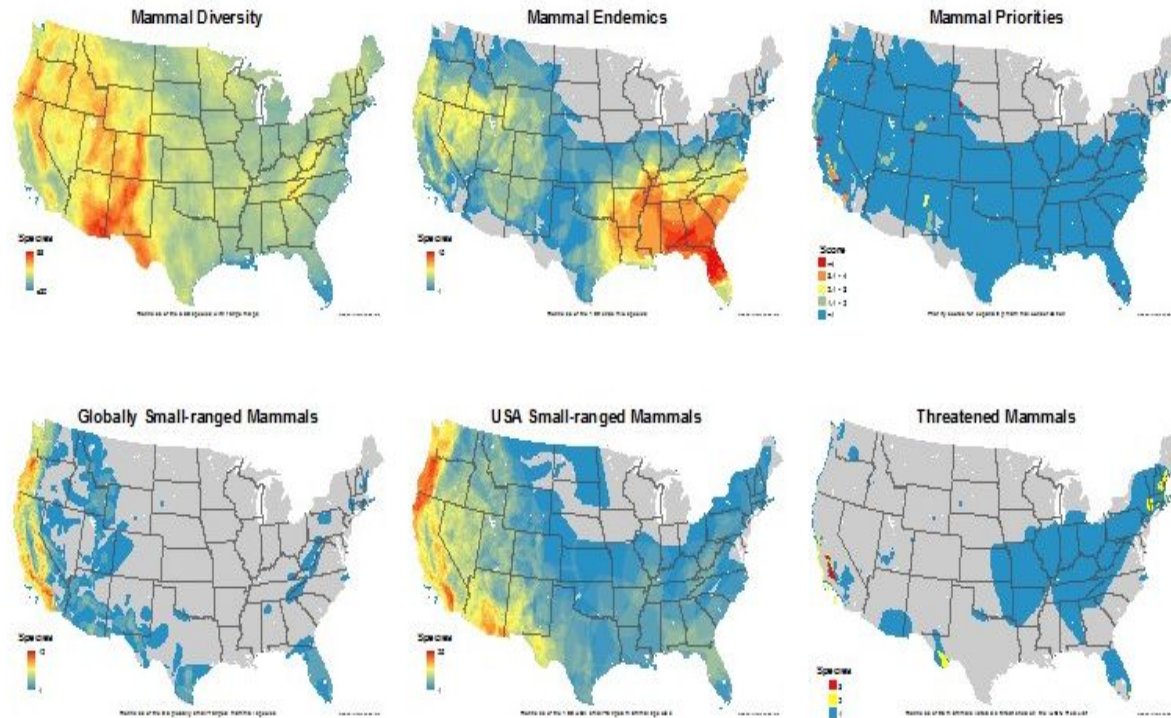


0 70 140 280 420 560 Miles

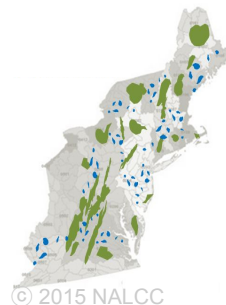


Habitat importance weights

Mammals of the USA

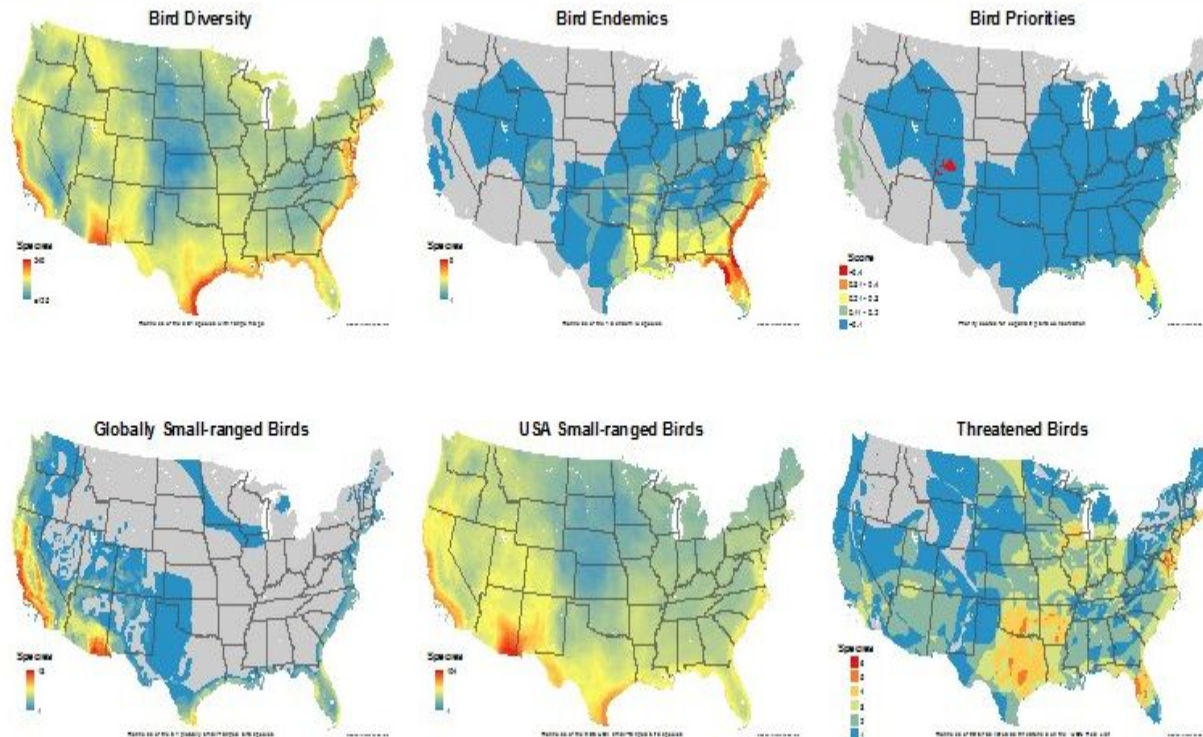


Maps of mammal diversity in the USA include the total species richness, endemic species, threatened species, and small-ranged species. Species considered small-ranged are those with a geographic range size smaller than the median (i.e., the 50% of species with the smallest ranges) either globally or of the species in the lower 48 states. Maps are derived from digital distribution maps from the IUCN, [July 2013 update](#).

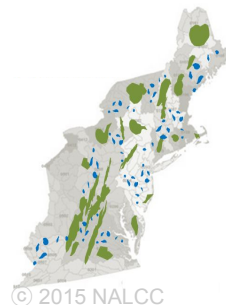


Habitat importance weights

Birds of the USA

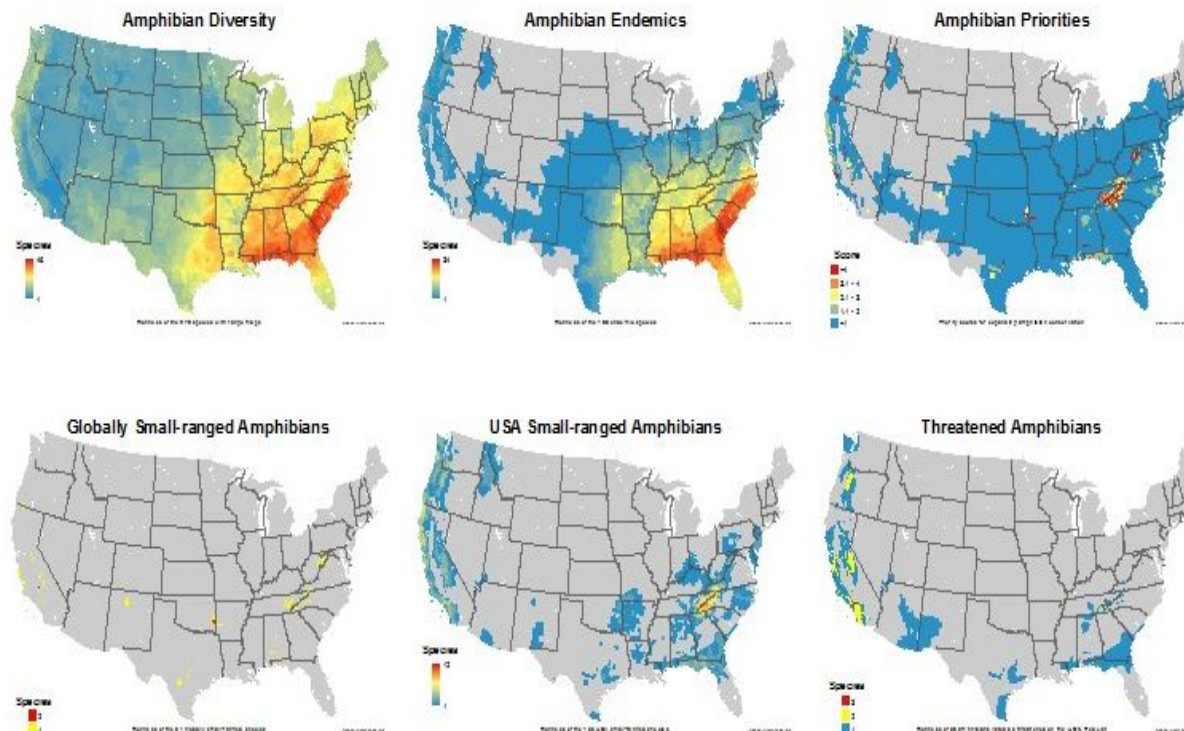


Maps of bird diversity in the USA include the total species richness, endemic species, threatened species, and small-ranged species. Species considered small-ranged are those with a geographic range size smaller than the median (i.e., the 50% of species with the smallest ranges) either globally or of the species in the lower 48 states. Maps are derived from digital distribution maps for all the world's birds in [BirdLife International](#) and [NatureServe](#) (2013).



Habitat importance weights

Amphibians of the USA



Maps of amphibian diversity in the USA include the total species richness, endemic species, threatened species, and small-ranged species. Species considered small-ranged are those with a geographic range size smaller than the median (i.e., the 50% of species with the smallest ranges) either globally or of the species in the lower 48 states. Maps are based on data from the IUCN, [July 2013 update](#).

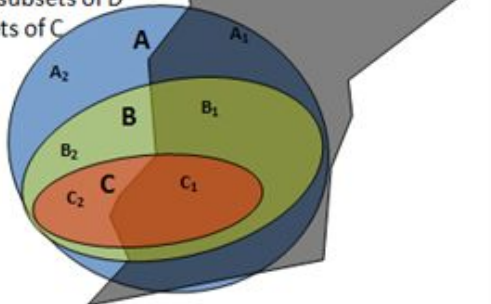


Species status ranks

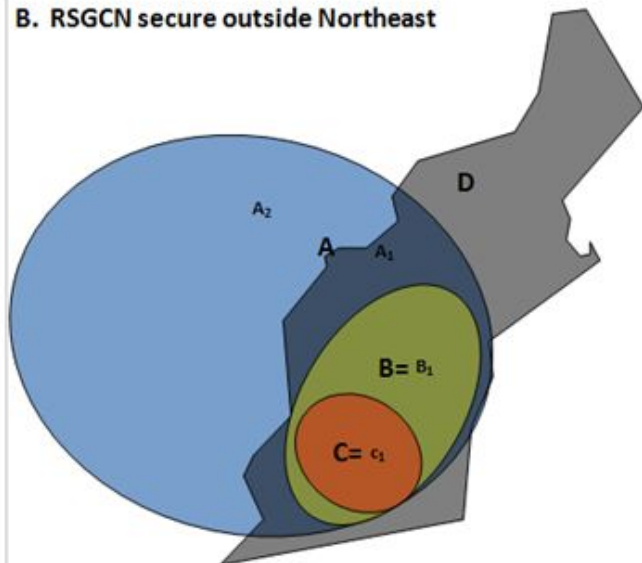
We are collaborating with states and NatureServe to develop distribution analysis and ranking for all plants and animals.

A. Sets Defining Northeast Distributions

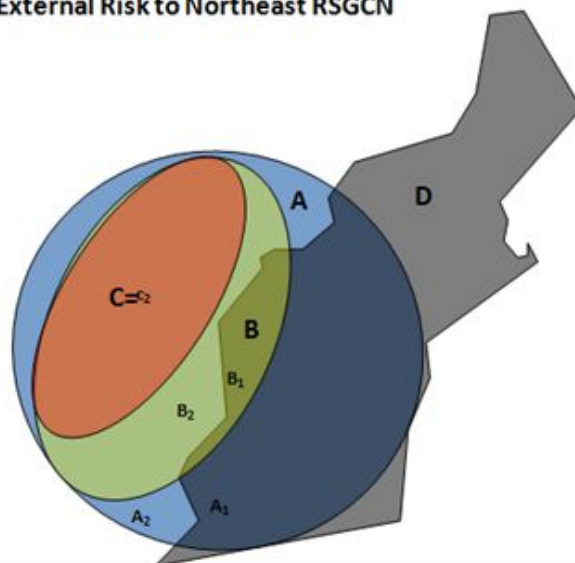
A = Original North American Distribution
 B = Threatened North American Distribution
 C = Extirpated North American Distribution
 D = Planning geography (Northeast)
 $A \cap D$ = Original Northeast Distribution
 D-A = Adjacent Distribution
 $A_1, A_2, B_1, B_2, C_1, C_2$ are subsets of A
 B_1, B_2, C_1, C_2 are subsets of D
 C_1, C_2 are subsets of C



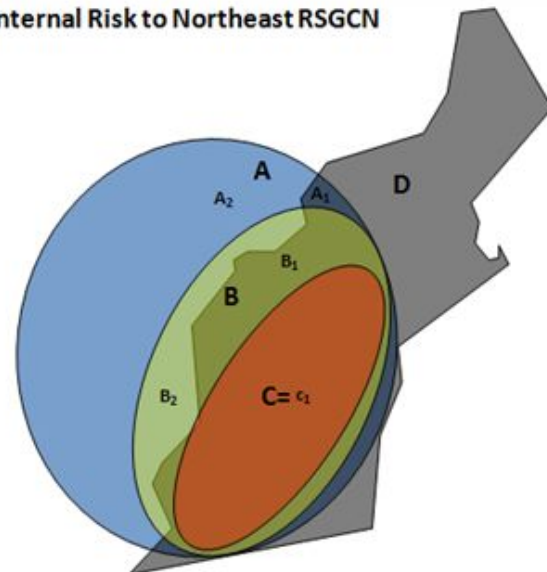
B. RSGCN secure outside Northeast



C. External Risk to Northeast RSGCN



D. Internal Risk to Northeast RSGCN



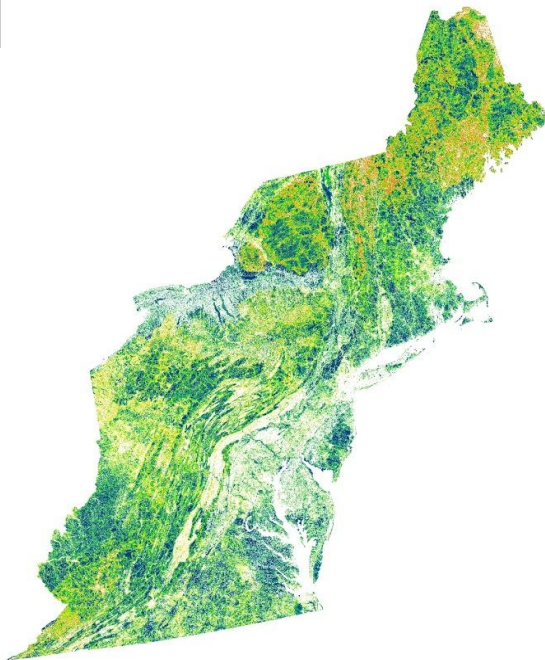
RSGCN habitats

Core areas will be adapted for RSGCN and Biodiversity

Weighted for RSGCN

Unweighted

Weighted for Cores



IEI

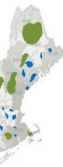


High : 100

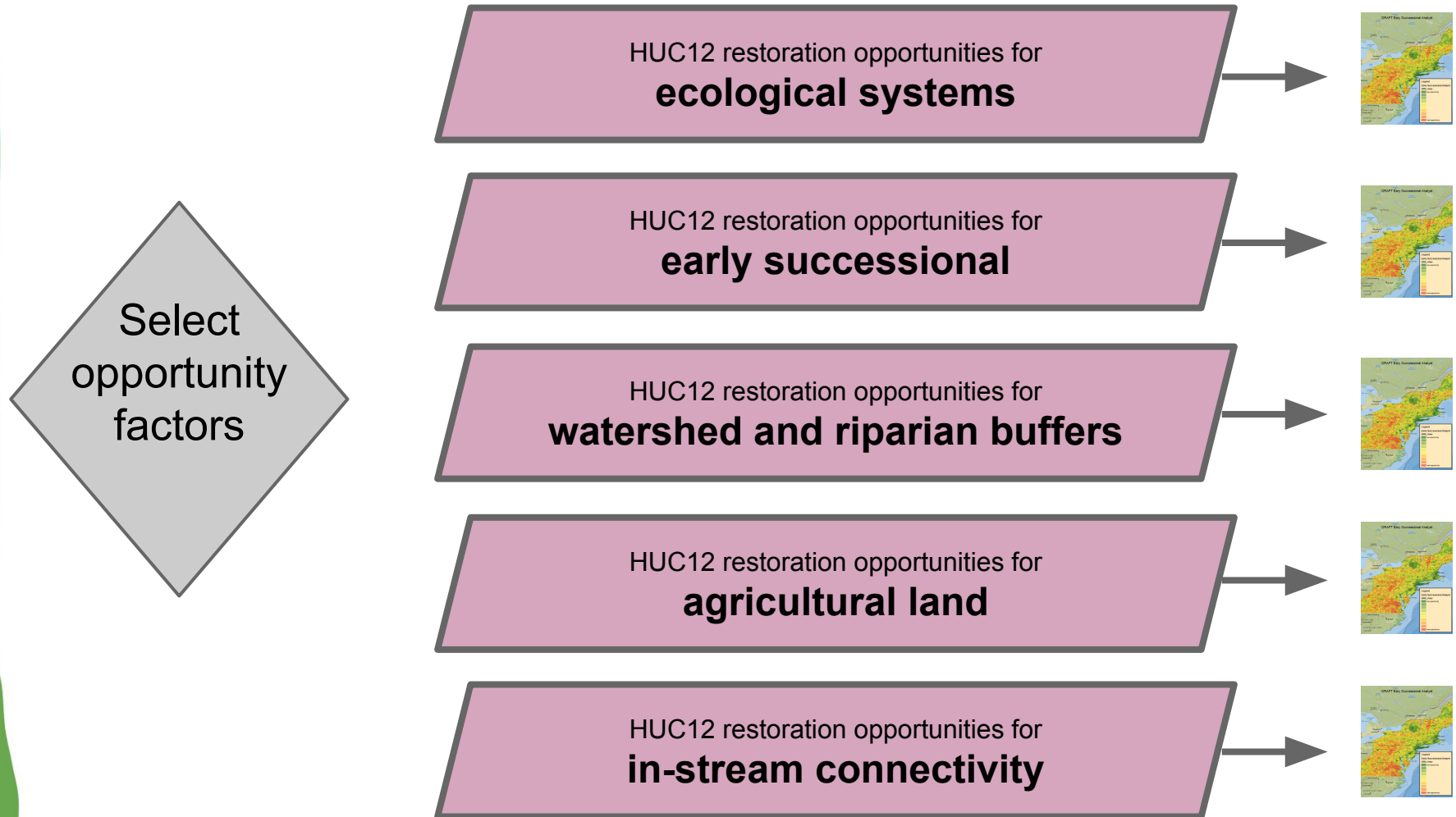
Low : 1



0 70 140 280 420 560 Miles



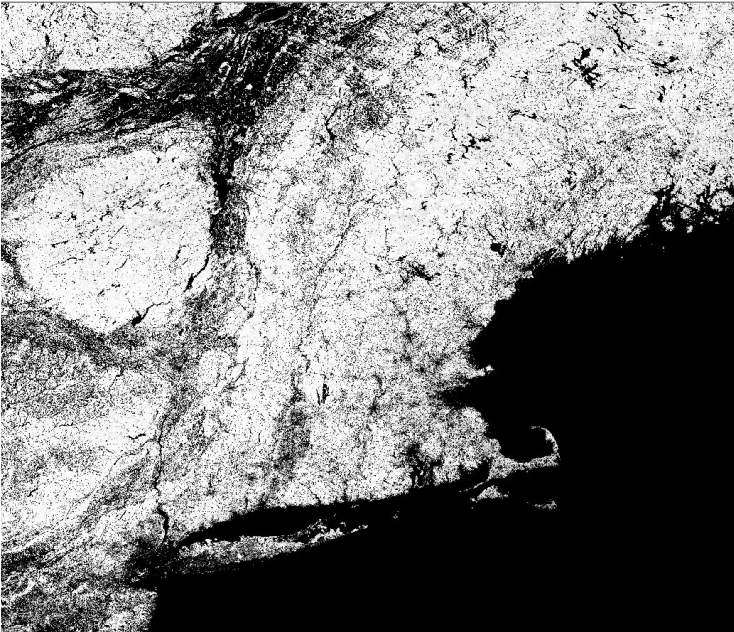
Restoration analysis



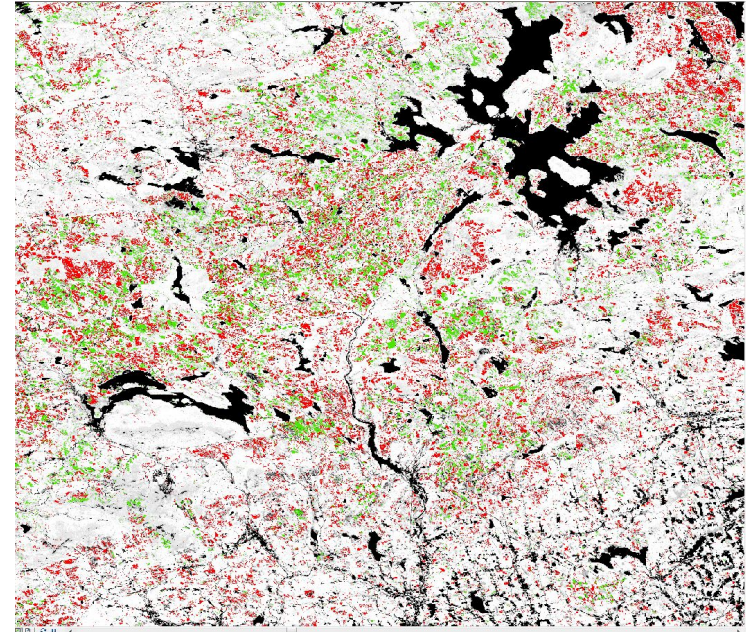
Restoration

Are there data that are meaningful at a regional scale?

Forest Cover



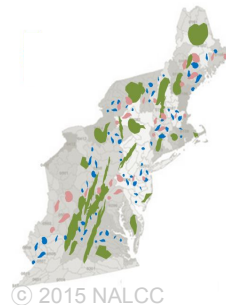
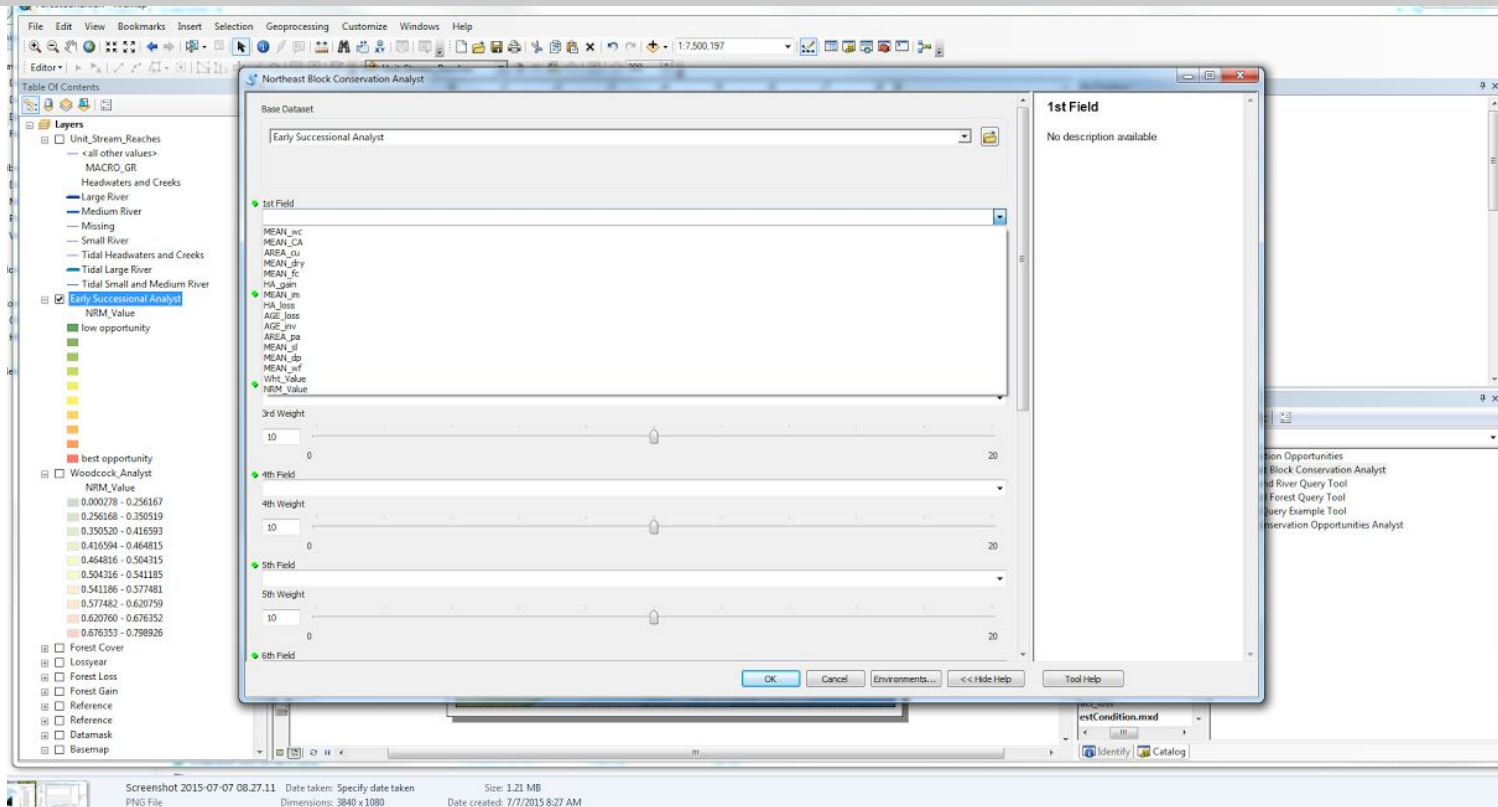
Forest Gain/Loss



Forest condition data from Hansen et al. 2015

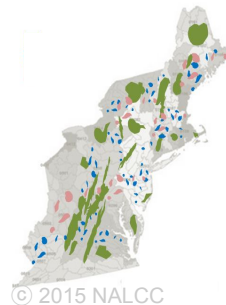
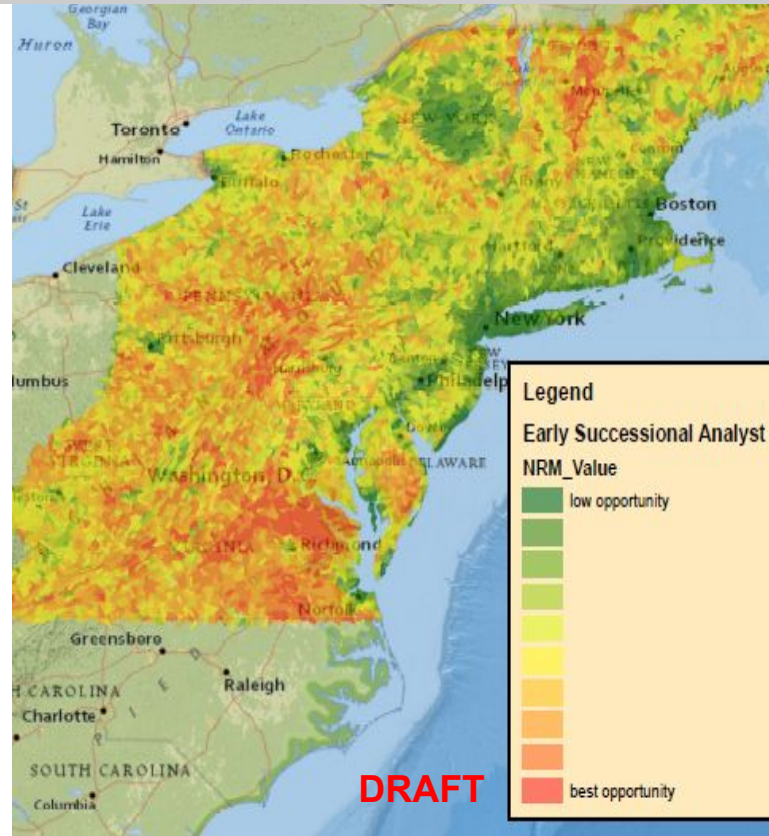
Restoration

We have a tool that allows users to weight their opportunity factors.



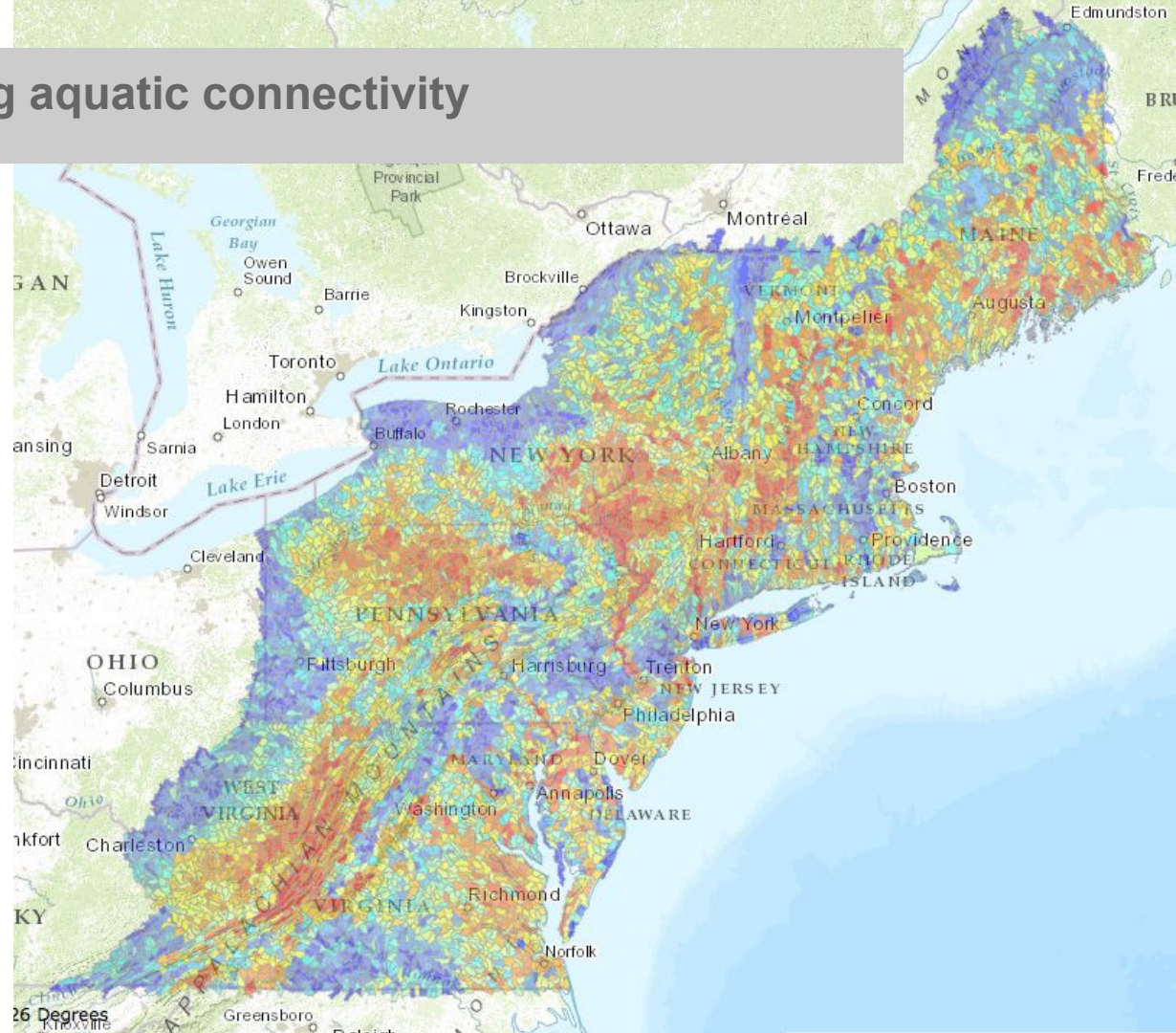
Restoration products

Results can be made available as maps or customized at your desk



HUC 12 results for restoring aquatic connectivity

- HUC 12 prioritized by North Atlantic Aquatic Connectivity Collaborative

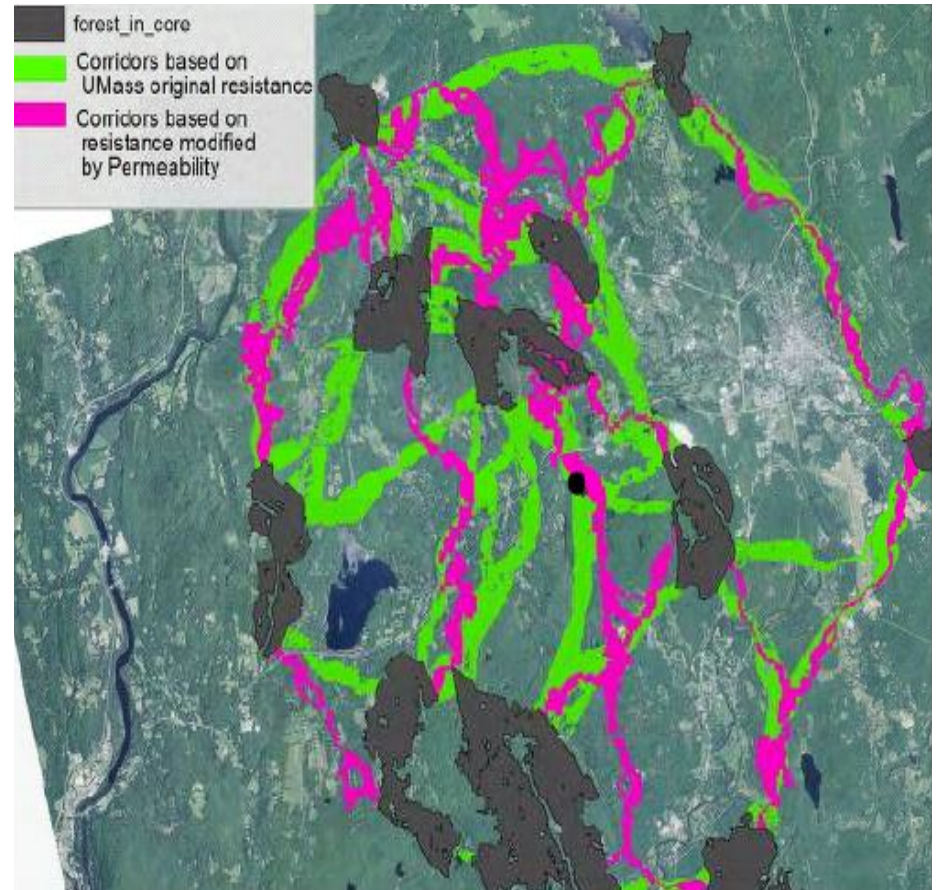


Connectivity analysis

Regional connectivity

Example results (core based)

Corridors connecting nearby forest cores based on UMass resistance modified by TNC permeability

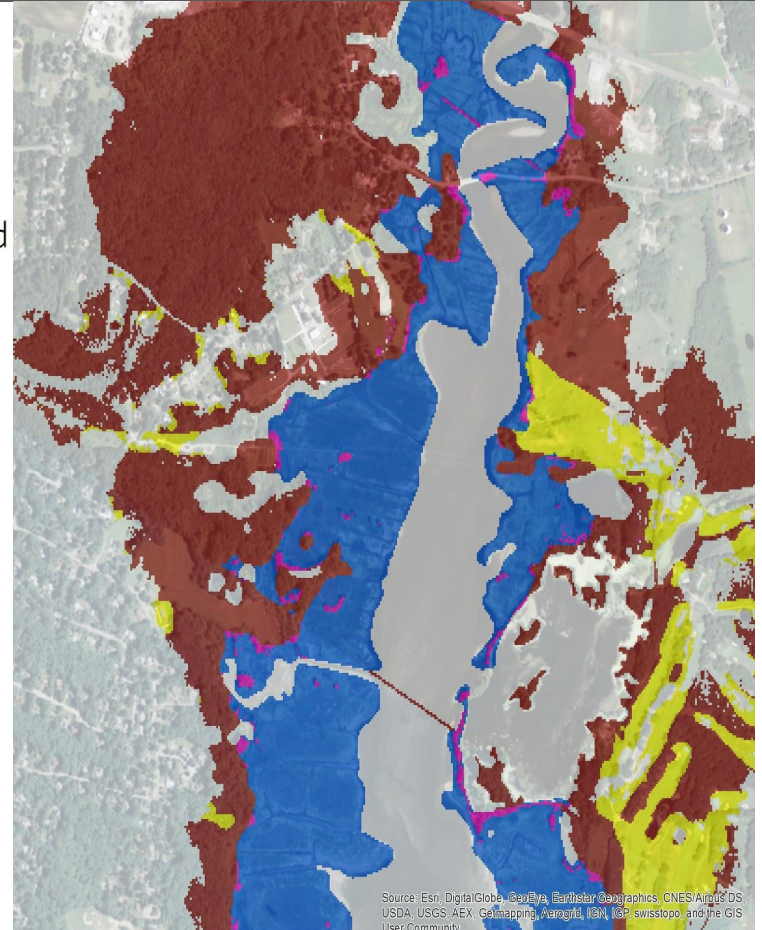


Connectivity analysis

Tidal marsh migration opportunities

5ft Sea Level Rise Model

-  Restoration Opportunity: Marsh at Risk of Loss to Inundation
-  Restoration Opportunity: Marsh Migration Path over Developed Land
-  Conservation Opportunity: Upland Migration Corridor



Better implementation

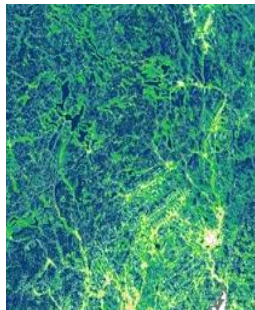
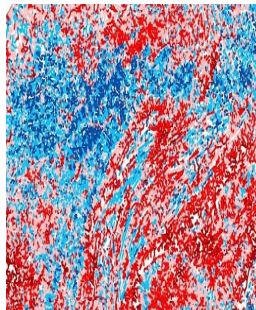
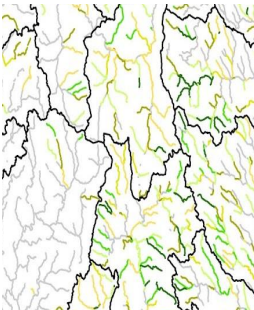
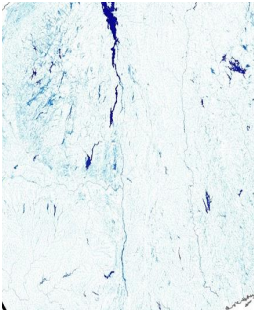
What does Efficient Conservation look like?

- Regional patterns clarify conservation priorities.
- Habitats that appear secure locally may be in trouble elsewhere.
- Is my state the battleground or sideshow for species X?
- The best opportunities to pre-empt listing might be where species are not on the radar.
- Which species and habitats is my state most “responsible” for?
- Where can we hedge our investments against future conditions?
- Understanding the regional context complements state COAs!

Products and Uses

Products

An atlas with methodology documentation
Data and Tools to plan conservation



Uses

- Prioritize restoration & land management
- Inform land protection
- Find core areas for all species
- Complement/Confirm state priority areas
- Regional context for state decisions
- Monitor changes in landscape over time
- Inform policy and listing decisions
- Grant applications
- Guide SWAP implementation and RCNs

Next Steps

For the year to come

1. Support applications, learning and feedback from Connect the Connecticut.
2. Support regional scale implementation of the approved methodology for RCOAs, using a combination of funding and partner contributions, with the goal of draft results by June 2016.
3. Engage additional partners and expertise in the review and development of RCOAs, honoring jurisdiction where relevant..
4. Make interim products available for review by states and other partners as they become available, with a substantial showing of results available for NEAFWA committee meetings.
5. Engage partners and partnerships that are interested in developing sub-regional conservation designs.