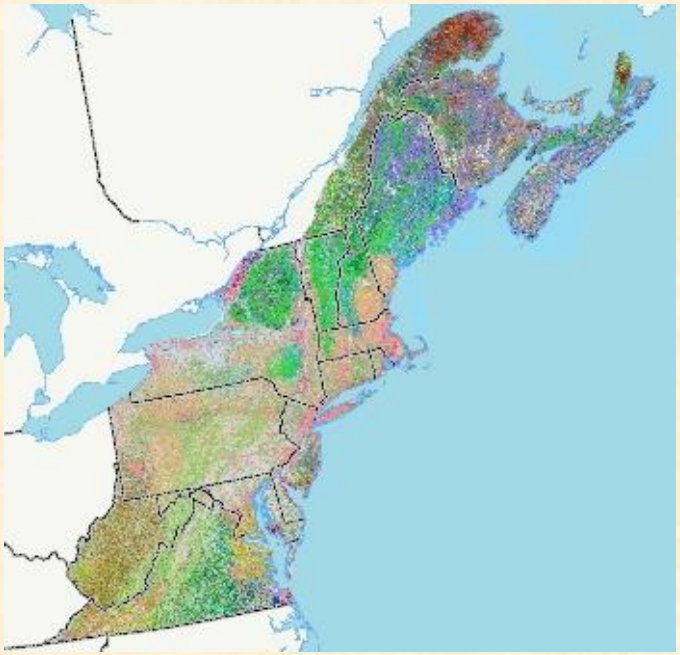
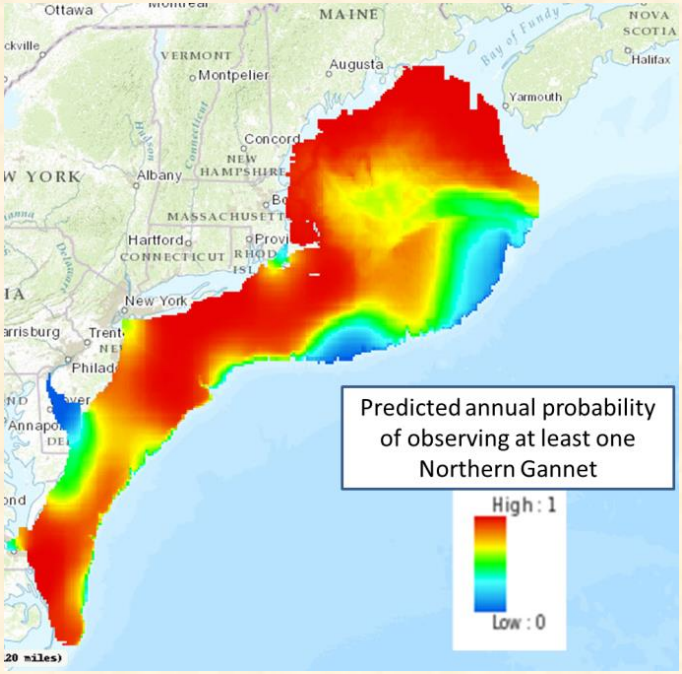
Products, Tools, and Uses of North Atlantic LCC Projects

Steering Committee Meeting
October 26, 2015





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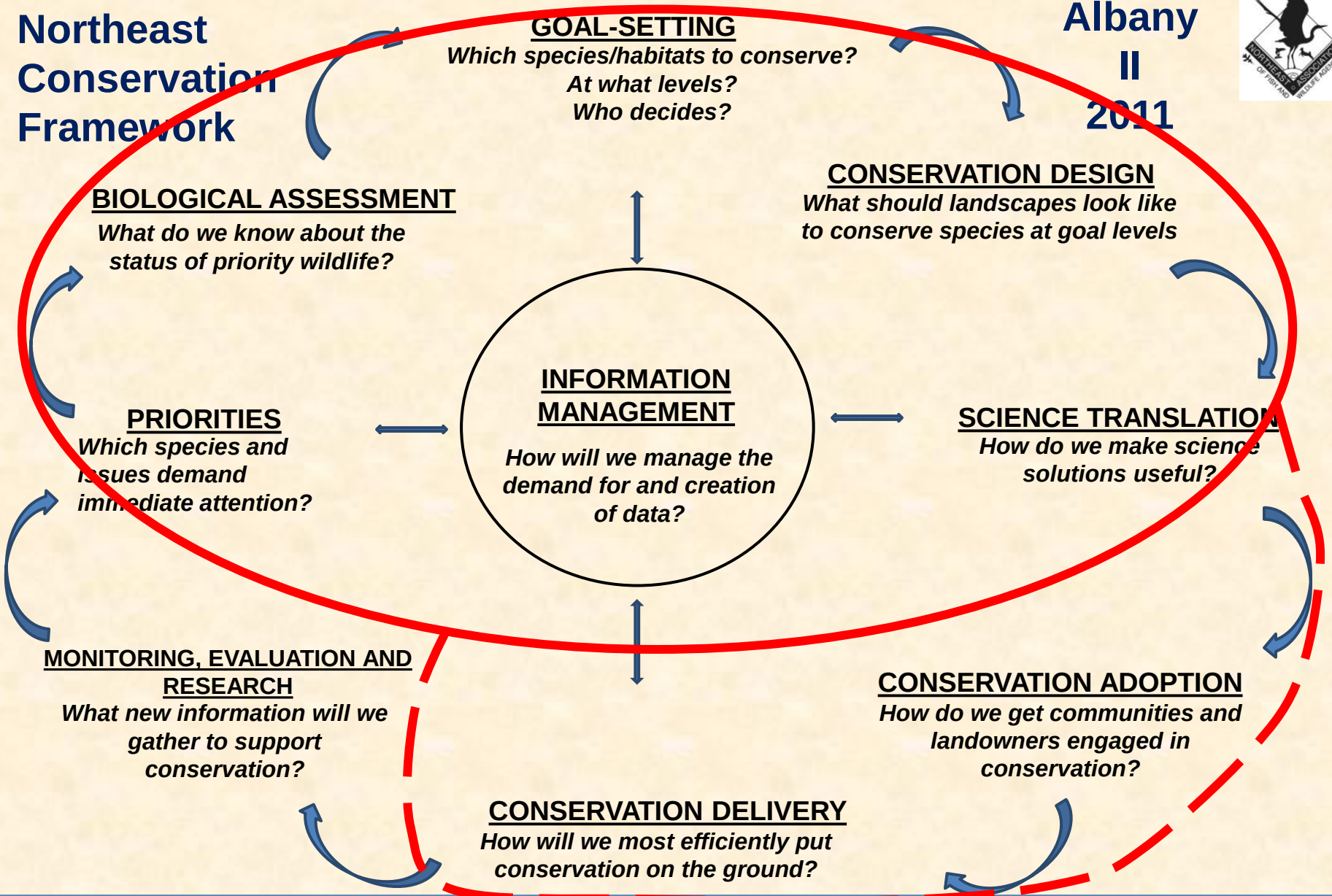
Northeast Conservation Framework

Albany II 2011



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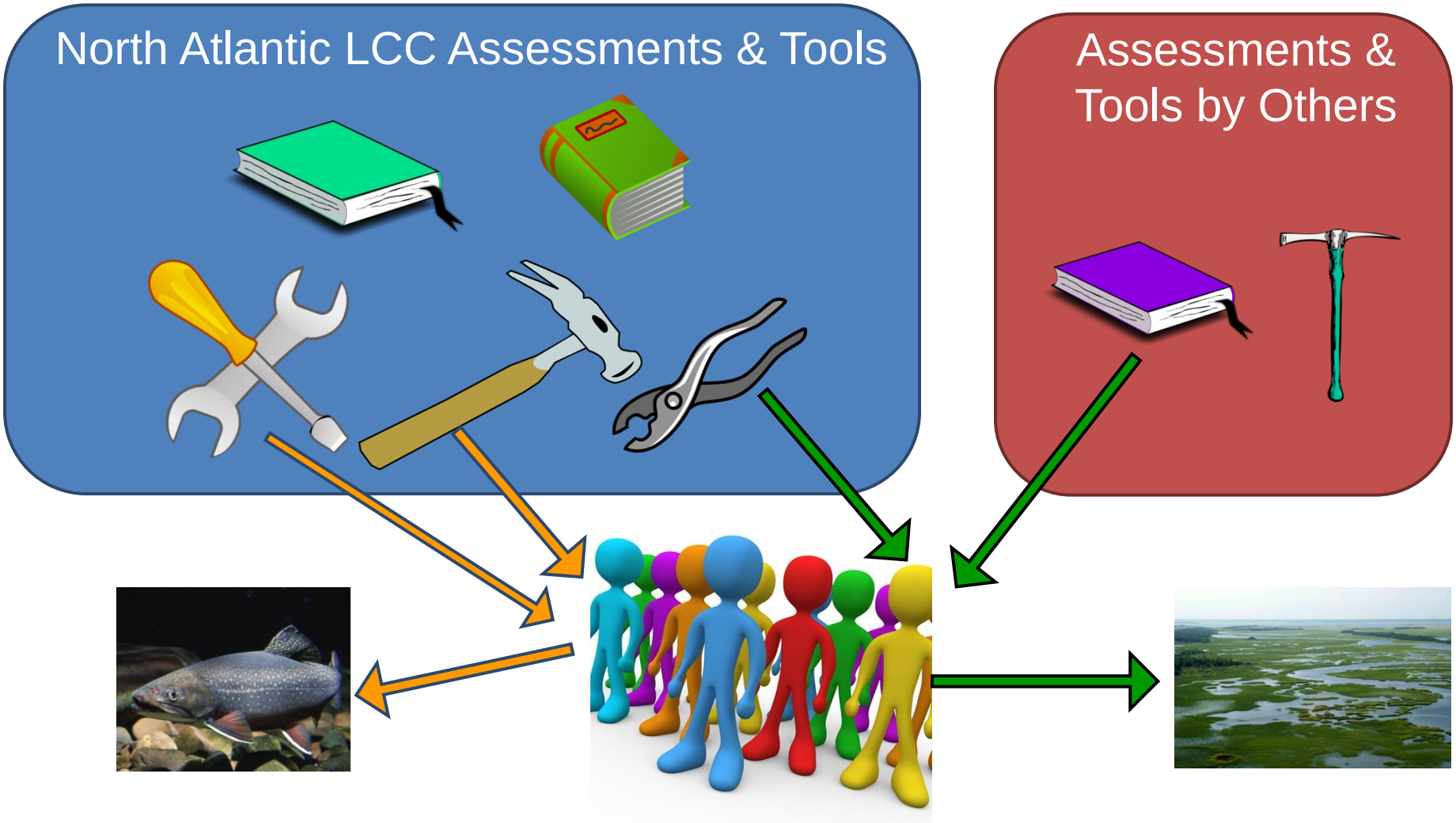
How Projects and Products Relate & Fit Together

One way to understand how they relate:

1. Foundational information
2. Assessments of condition and vulnerability
3. Decision support tools and conservation designs

How Do LCC Products Relate & Fit Together?

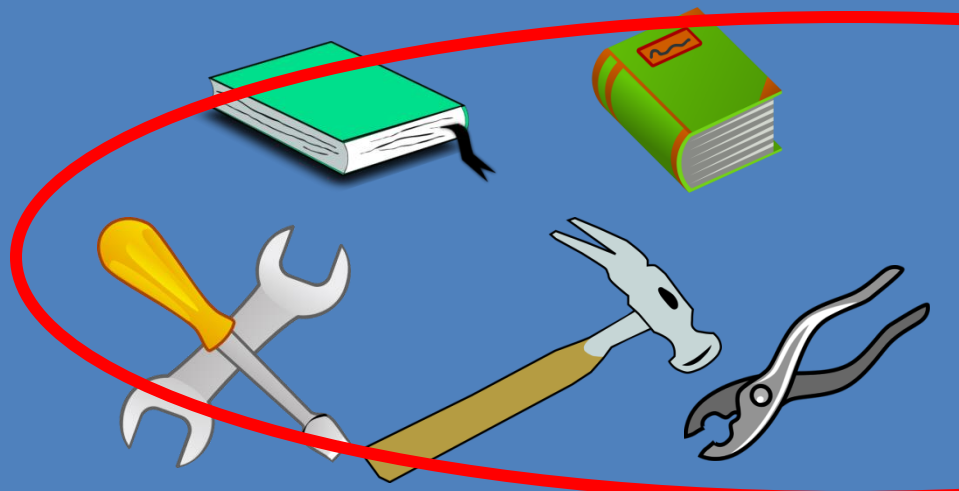
1) Strategic conservation of priority resources by individual partners



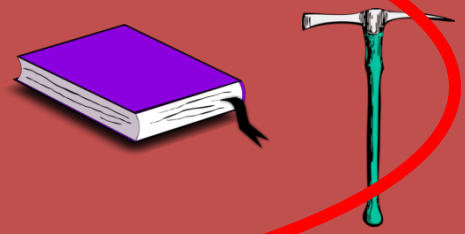
How Do LCC Products Relate & Fit Together?

2) A shared vision for where we want our collective priorities to be in the future

North Atlantic LCC Assessments & Tools



Assessments & Tools by Others



Collaborative Conservation Design

Examples of Project/Product Integration

Already in *Connect the Connecticut* and/or Regional Cons. Opportunity Areas (RCOAs)

- UMass *Designing Sustainable Landscapes*
- TNC terrestrial and aquatic habitat classification & resiliency analyses [sponsored NE states]
- USGS stream temp. & brook trout forecasting
- VA Tech NWI updates
- USGS sea level rise
- North Atlantic Aquatic Connectivity Collaborative

Candidates for RCOAs:

- PARCAs, TNC Permeability, other coastal resiliency

Projects

This area describes conservation science projects sponsored by the North Atlantic LCC, and other regional partners, that contribute regional-scale scientific information to aid decision makers who are working to sustain natural and cultural resources, including fish and wildlife populations.

2015 RFPs

The North Atlantic Landscape Conservation Cooperative (NALCC) is no longer accepting Requests for Proposals (RFPs) for grants under the 2015 NALCC Priority Science Program. Thank you to all who applied. Grant awardees will be posted in this space in November 2015. We will award funding to proposals for 2015 priority science needs in two topic areas:

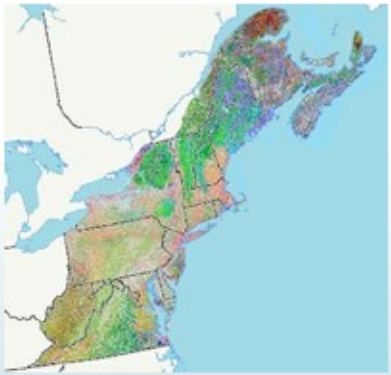
Topic 1: Consistent Assessment of River Corridor and Floodplain Ecosystems and Cultural Resources Vulnerable to Flooding (maximum of $100,000 available)

Topic 2: Prioritization of Rare Plants

FEATURED PROJECTS

Extending the Northeast Terrestrial Habitat Map to Atlantic Canada

This project developed a comprehensive terrestrial habitat map for the entire extent of the North Atlantic Landscape Conservation Cooperative (NALCC) region by extending the Northeast Terrestrial Habitat Map to Atlantic Canada and southern Quebec. The completed version was released on September 10, 2015.



1 2 3 4 5

Search Results

Sort by: Alphabetical Most recent Oldest first NALCC-funded

North Atlantic Landscape Conservation Cooperative

Conservation Planning Atlas

Search by keyword or location

powered by DATA BASIN

Get Started | Browse | Create | My Workspace

- What is the North Atlantic LCC Conservation Planning Atlas (CPA)?
- What is the North Atlantic LCC?
- What can I do?
- How do I start exploring?

The North Atlantic LCC Conservation Planning Atlas is a platform for easy access to high-quality geospatial datasets, maps and information to facilitate partner-driven conservation.

Learn more

Get started quickly with the North Atlantic LCC Conservation Planning Atlas **Take a Tour**

North Atlantic LCC Galleries...

Recommended Items

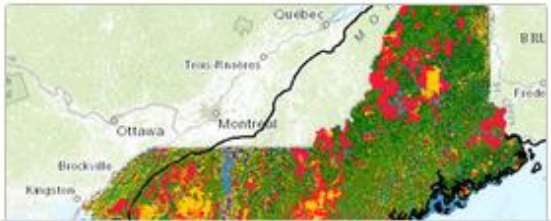
Dataset

Terrestrial Habitat,

Gallery

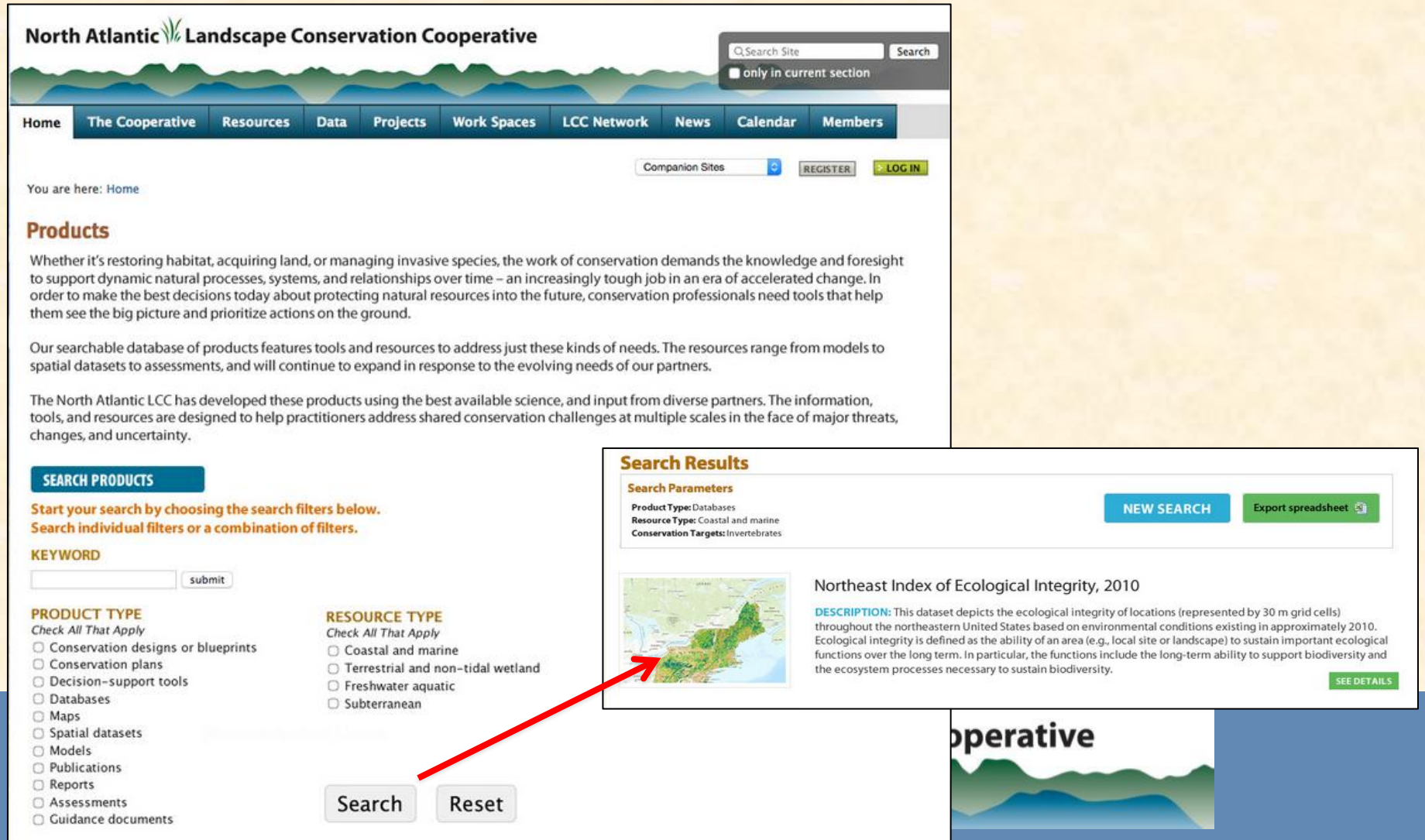
Climate

Northeast Terrestrial Habitat and Secured Lands Map



Coming Soon: “Products” Site on NALCC webpage

Main Product Search Page



Individual Product Landing Page

North Atlantic Landscape Conservation Cooperative

Search Site | Search | only in current section

Home | The Cooperative | Resources | Data | Projects | Work Spaces | LCC Network | News | Calendar | Members

You are here: Home / Products / Northeast Index of Ecological Integrity, 2010

Companion Sites | REGISTER | LOG IN

Northeast Index of Ecological Integrity, 2010

What is it?
The Index is a model that offers a way to measure an individual siteÕs capacity to support key biological functions over time. It combines 19 metrics that characterize a siteÕs ability to remain intact and recover from human and natural disturbances.

How can it be used?
The Index provides a way for resource managers to identify the best candidates for conserving important habitat types across an entire state or region because it ranks sites against others within the same ecological group or system when assigning an "integrity" score. For example, a site that is categorized as "Northern Hardwood and Conifer Forest" would only be ranked in comparison to other "Northern Hardwood and Conifer Forests" in the state or region of interest. By having a tool that helps them understand how a site fits into a greater ecological context, resource managers can identify and prioritize areas that are most likely to sustain biodiversity into the future, offering the greatest long-term benefit to human and natural communities.

Related products and resources:
• Designing Sustainable Landscapes, UMass Amherst

Technical description:
This dataset depicts the ecological integrity of locations (represented by 30 m grid cells) throughout the northeastern United States based on environmental conditions existing in approximately 2010.

The Index of Ecological Integrity (IEI) is expressed on a relative scale (0 to 100) for ecological systems mapped on a modified version of the Northeast Terrestrial Habitat Map developed by the Nature Conservancy and the northeastern states. Ecological systems are recurring groups of biological communities found in similar environments at scales from tens to thousands of acres and typically persisting for 50 or more years. Examples of the more than 100 mapped systems include "Acadian-Appalachian Montane Spruce-Fir Forest" and "Northern Atlantic Coastal Plain Tidal Salt Marsh."

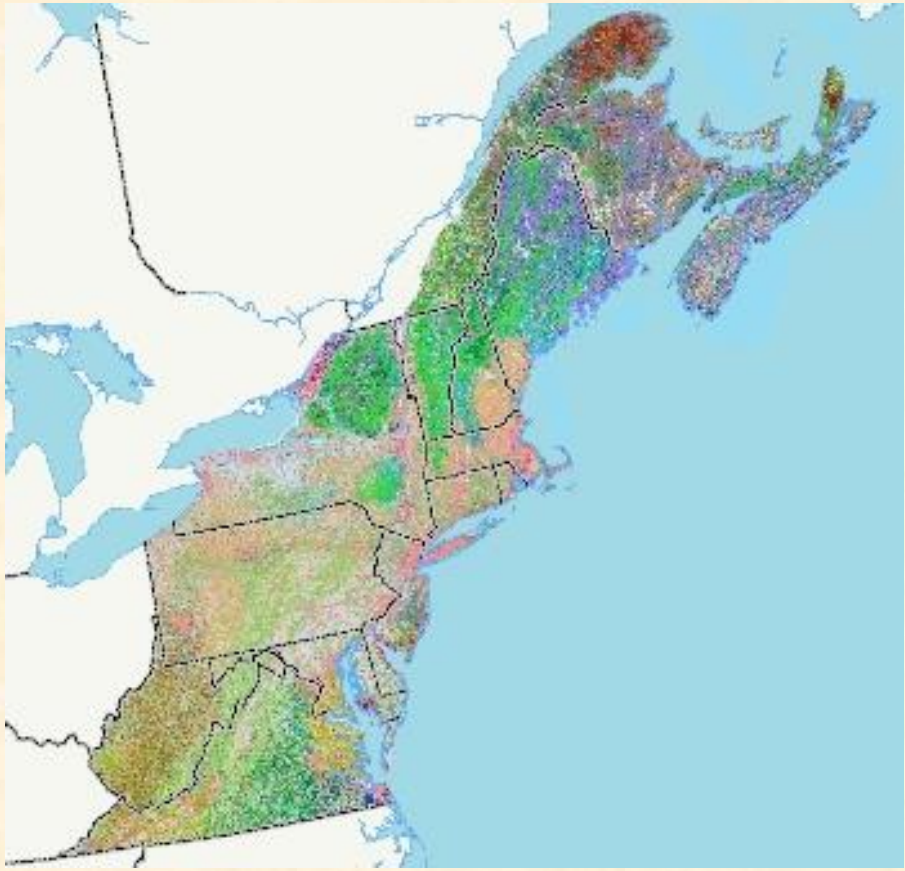
For purposes of calculating the index, related or similar ecological systems were grouped into about 25 macro-ecological systems such as "Northern Hardwood and Conifer" and "Emergent Marsh."This version of ecological integrity includes two categories of landscape metrics:

• Intactness – the freedom from human impairment (anthropogenic stressors), measured as a combination of a number of stressor metrics.

Product Link:	http://nalcc.databasin.org/datasets/b4eb1d4210d04026b6798e559f6e72ca
Date Created:	2014-10-02
Date Updated:	2015-6-02
Type:	Databases
Systems:	Databases
Threats:	Climate change impacts
Target Users:	County and local planners
Action:	
For More Information or Technical Assistance:	NALCC Staff Contact
Data Provided By:	University of Massachusetts
Data Hosted by:	ScienceBase (USGS)
Map Service URL:	https://www.sciencebase.gov/arcgis/rest/services/Catalog/5432cfc7e4b0b139a5822d98/MapServer/
Content date:	2014-10-02 (Publication Date)
Contact Organization:	University of Massachusetts
Contact Person(s):	Kevin McGarigal

Foundational Mapping: Extension of Northeast Terrestrial Habitat Map to Canada

Canada Expansion Completed Sept. 2015



- Useful for Canadian planning efforts
- Valuable foundation for extending cross-boundary conservation planning and design

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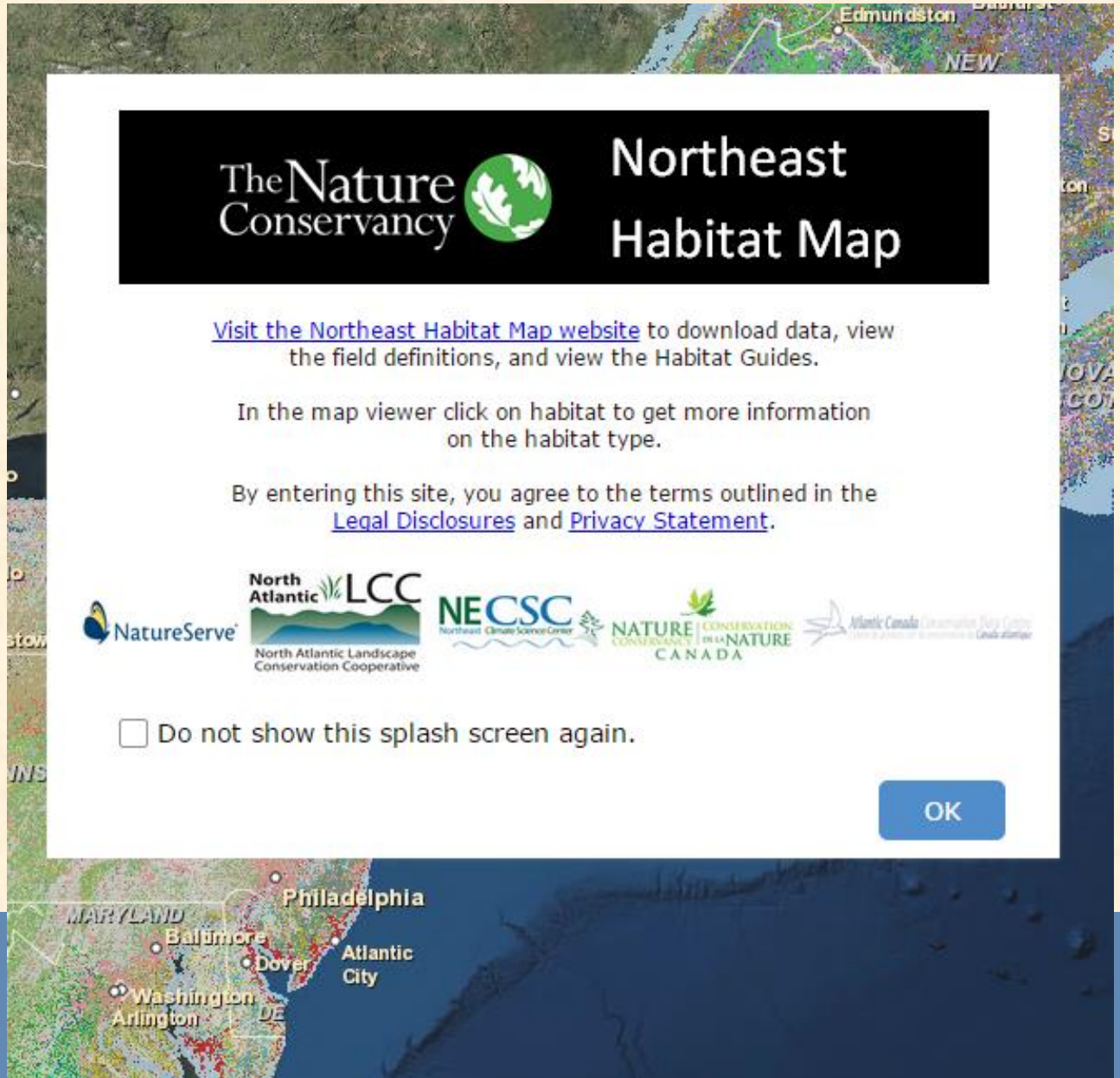
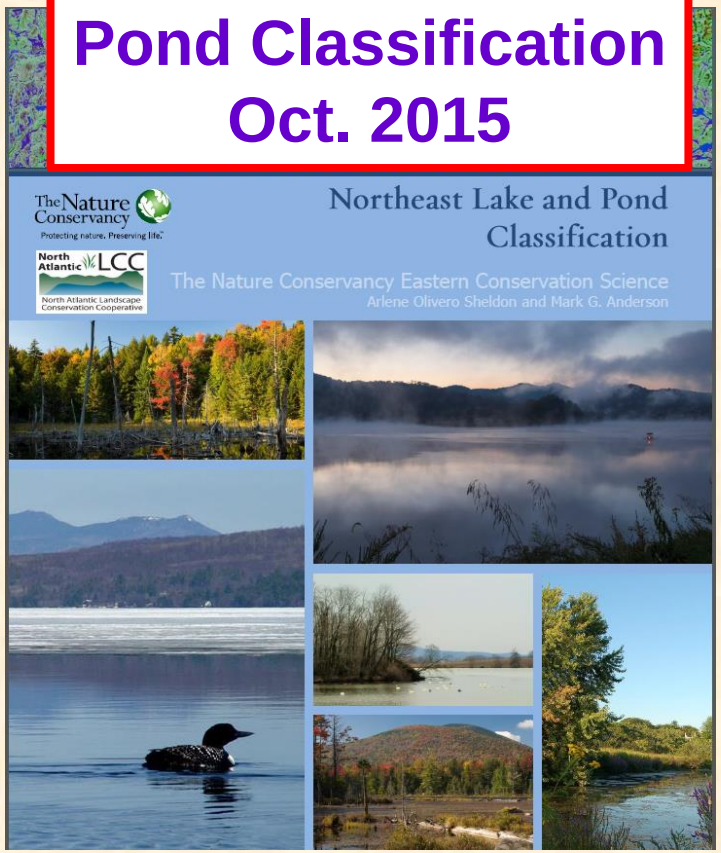
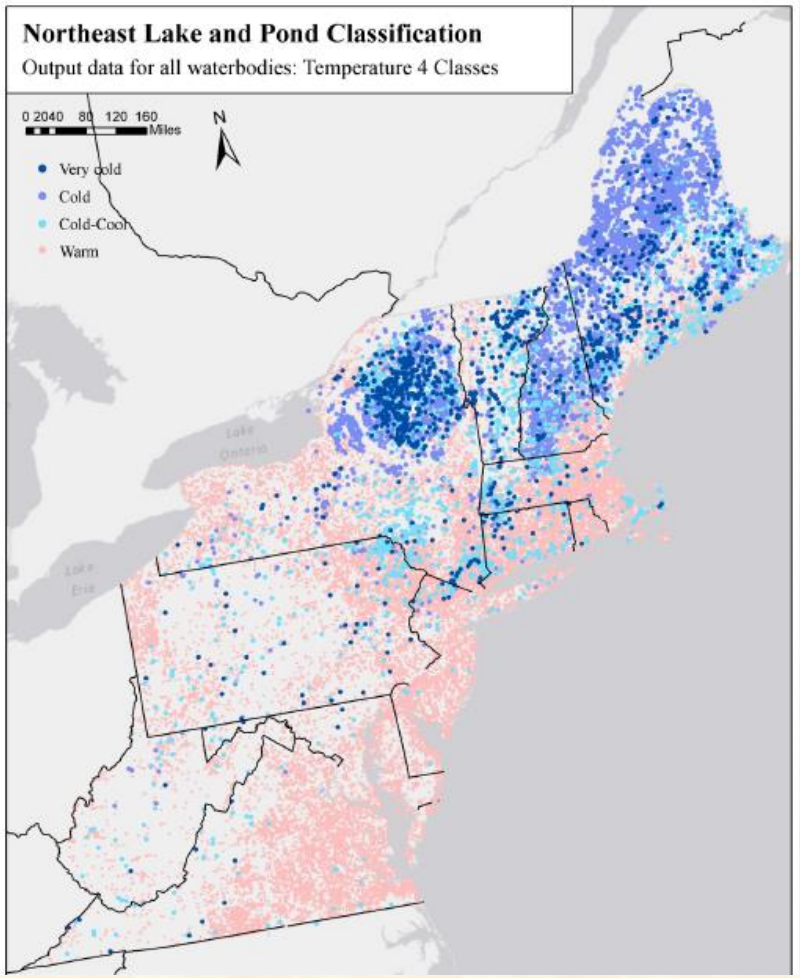
http://maps.tnc.org/nehabitatmap



Foundational Mapping: Northeast Aquatic Classification

Revised Lakes & Pond Classification Oct. 2015





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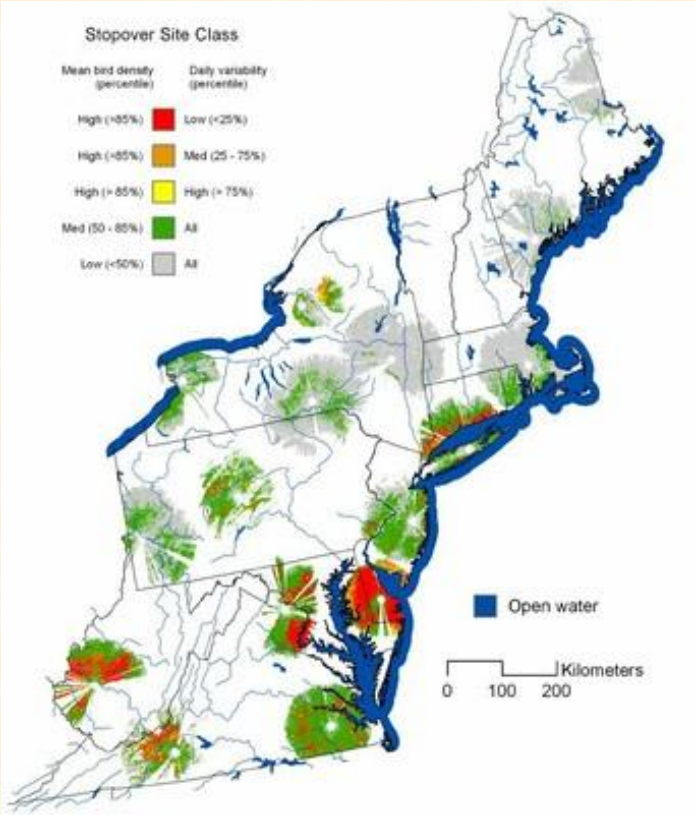
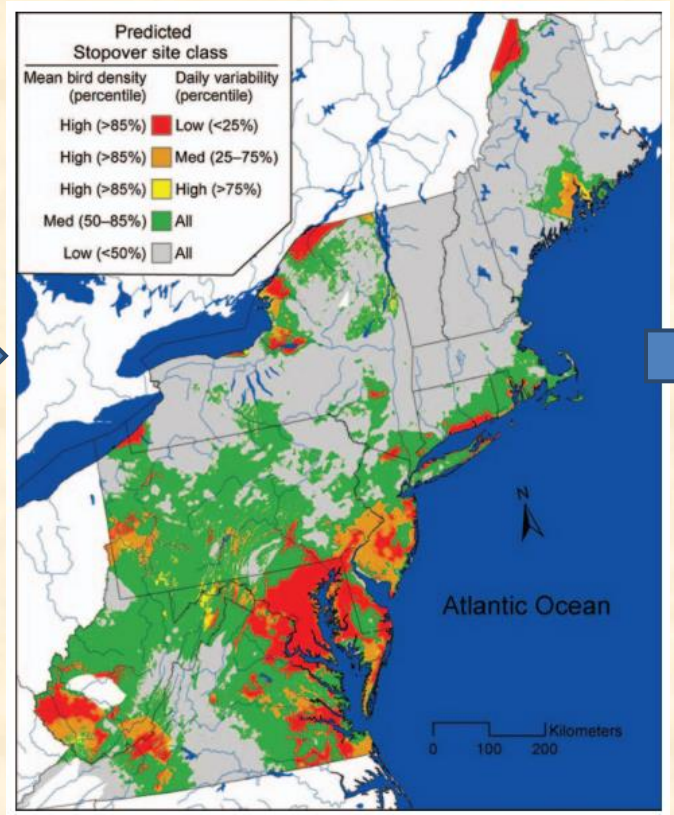
Foundational Mapping: Important Migratory Landbird Stopover Sites





Next step - Decision support tool for stopover prioritization?

Results within radar range

Regional predictions

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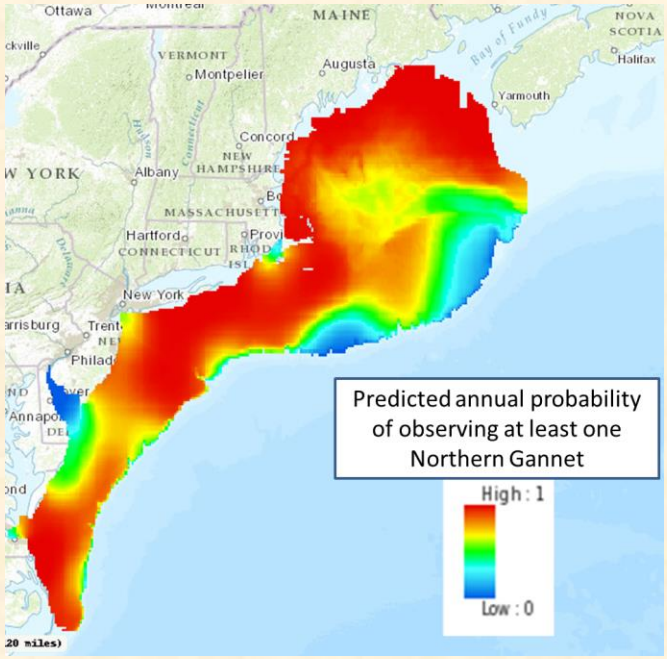
Foundational Mapping:
Marine Bird Mapping and Risk Assessment

Key products:

Monthly and annual occurrence models for 24 marine birds

Final Report & Data Released Oct. 2015



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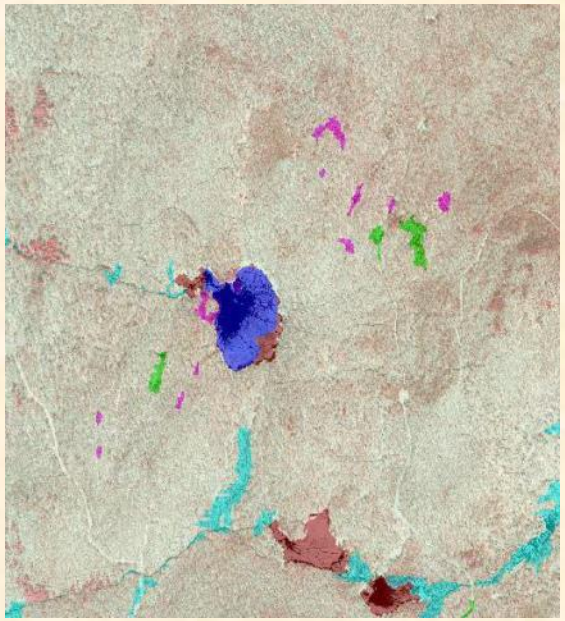
Foundational Mapping: Compilation of Regional Vernal Pool Data

1) Vernal pool partnership and compilation of existing vernal pool mapping efforts

2) Demonstration of automated methods for finding vernal pools



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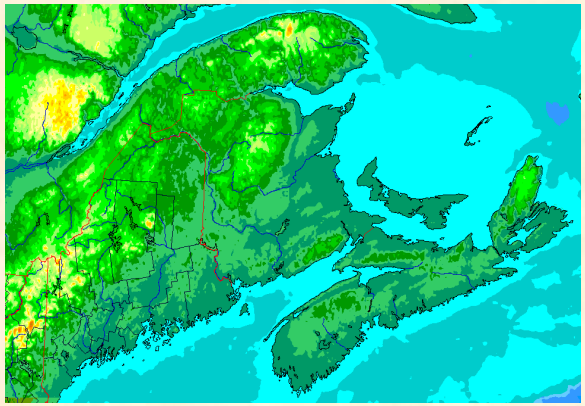
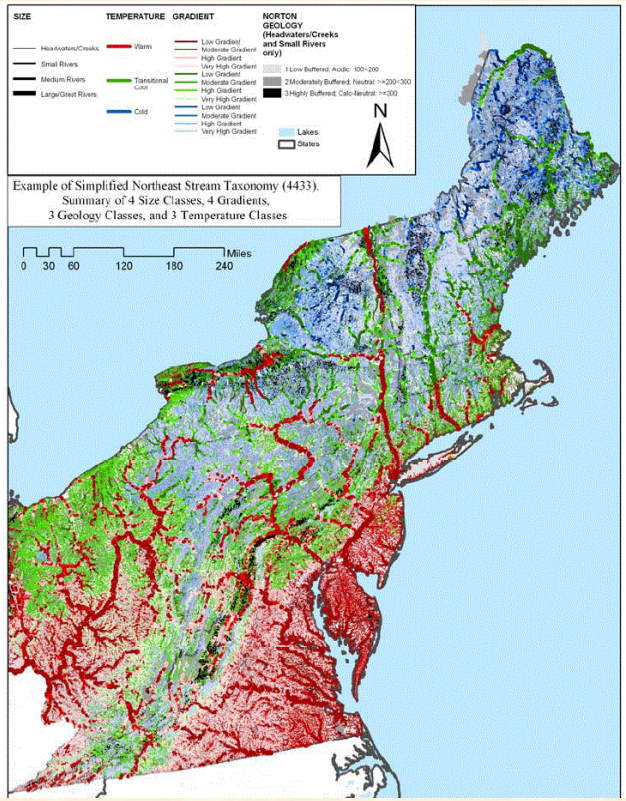
Foundational Mapping:
Northeast Aquatic Classification - Canada



Project Started
Sept. 2015



Aquatic counterpart to terrestrial habitat mapping, valuable within Canada and for cross-boundary conservation planning

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Conservation Design:
Designing Sustainable Landscapes

***Connect the Connecticut* Design Completed Oct. 2015**

- Habitat capability maps for 23 of 30 representative species completed
- Regional Index of Ecological Integrity & many other products

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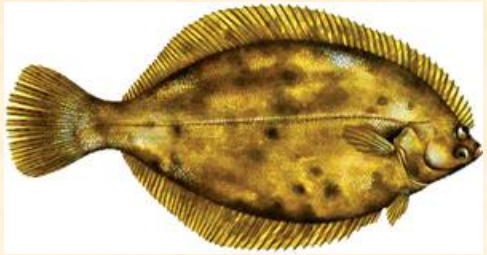
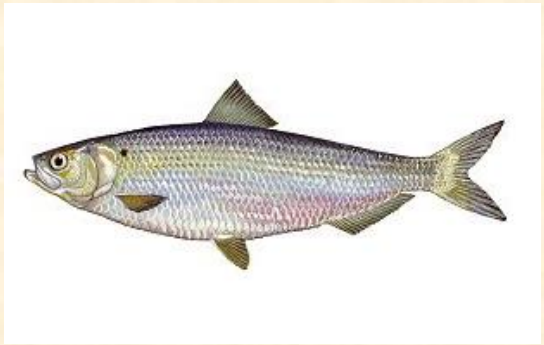
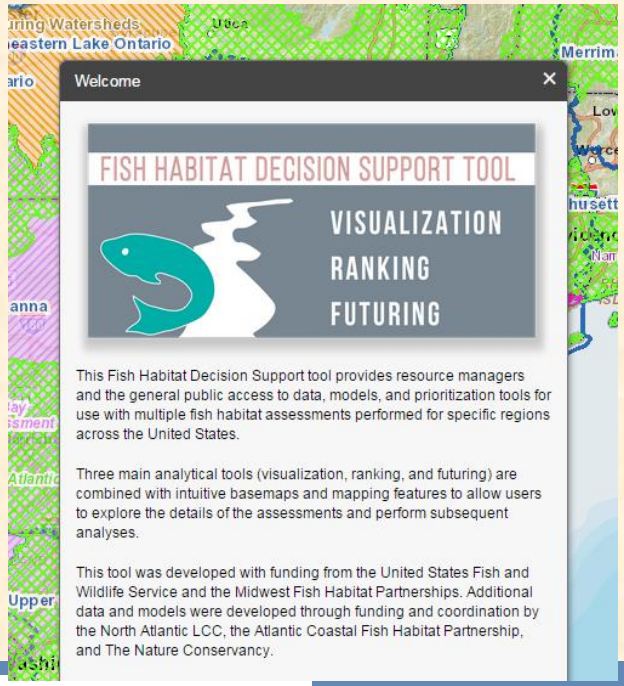
Conservation Design:
Aquatic and Coastal Decision Support Tool



Fish Habitat Tool Launched Sept. 2015

- Downstream Strategies
- West Virginia U.
- EBTJV
- ACFHP
- USFWS
- TNC





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Web-Based Decision Support Tool

Visualization Tool

Visualize and access data sets and model outcomes at multiple spatial scales (segment and aggregated to HUC12 and HUC8).

Ranking Tool

Identify restoration and protection priorities at segment, HUC12 and HUC8 scales based on user defined criteria.

Futuring Tool

Simulate effects of user-defined restoration activities.

Downstream Strategies

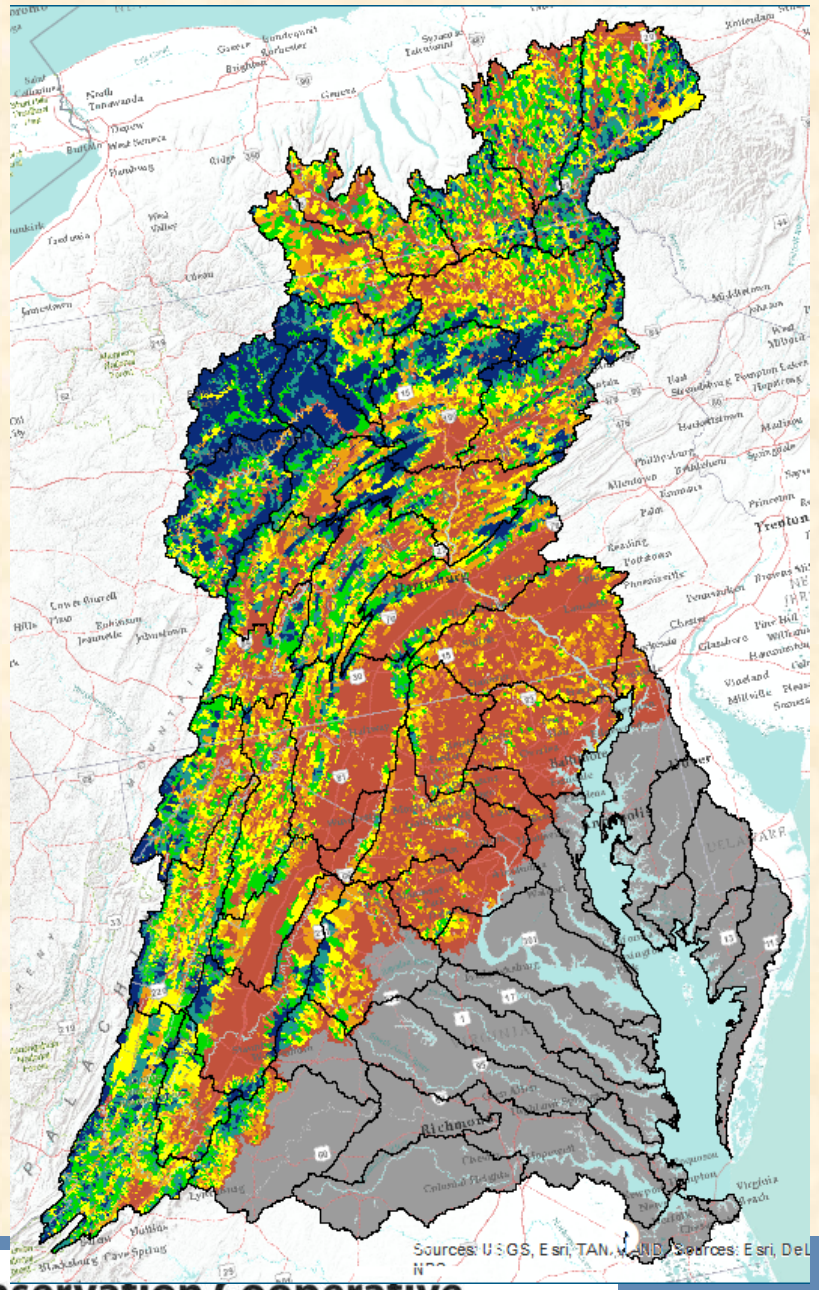
Goals of Brook Trout Assessment and Decision Support Tool

To support the management outcome of the **Chesapeake Bay Watershed Agreement**:

"Restore and sustain naturally reproducing brook trout populations in Chesapeake headwater streams with an eight percent increase in occupied habitat by 2025."

Eastern Brook Trout JOINT VENTURE
A Fish Habitat Partnership

Brook Trout Current Condition



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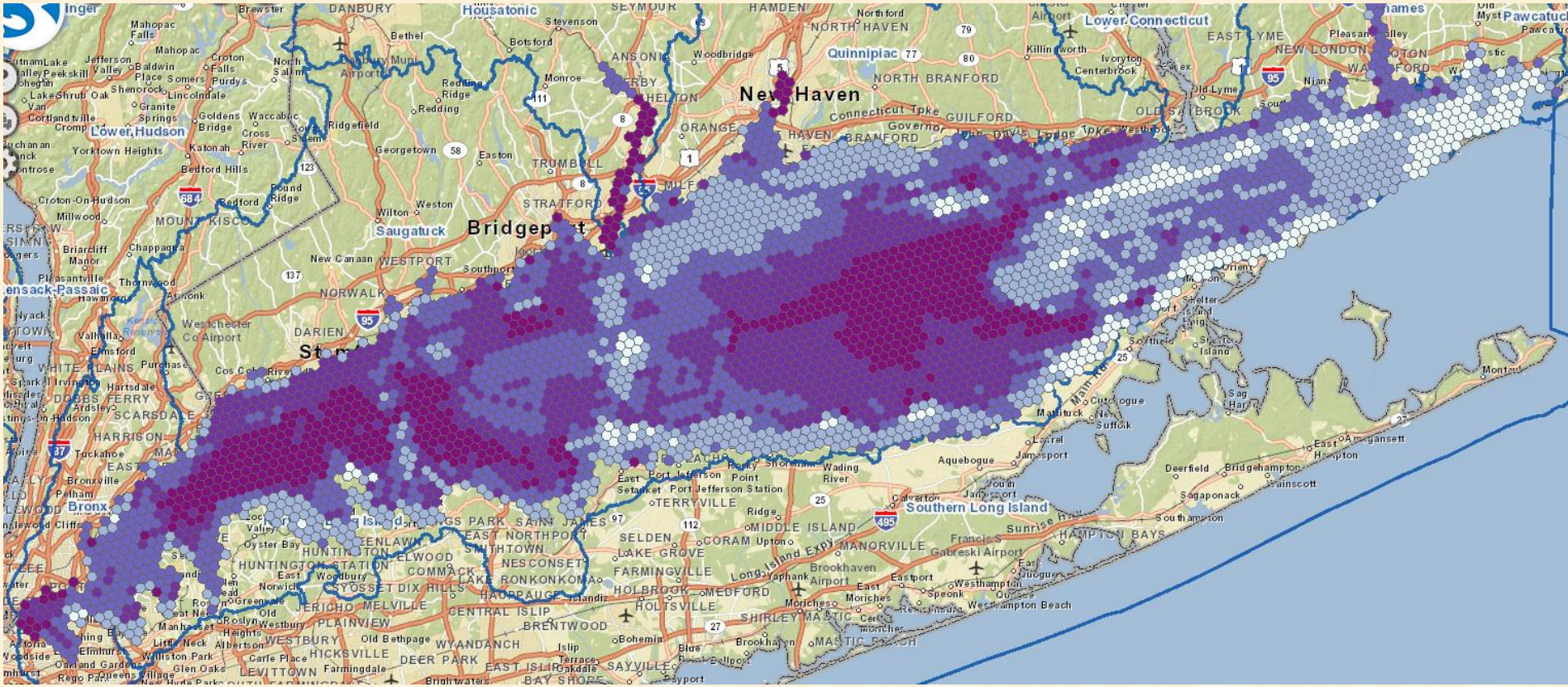
Ex.: Winter Flounder – Predicted Spring Density



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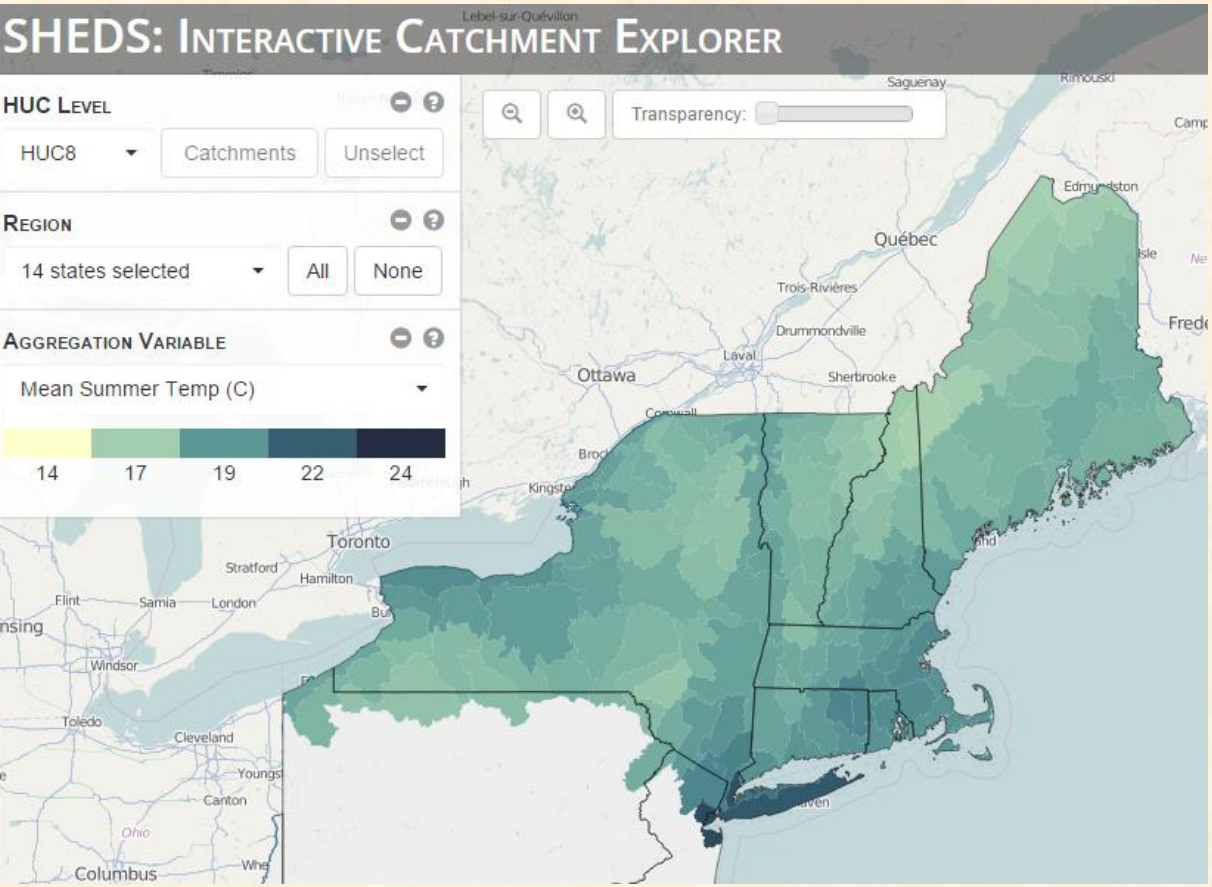
Conservation Design:
Forecasting Streams and Brook Trout



Products in development:

1) Decision support system integrating stream flow, temperature, and brook trout occurrence;
2) Pilot collaboration with States in stream temperature needs

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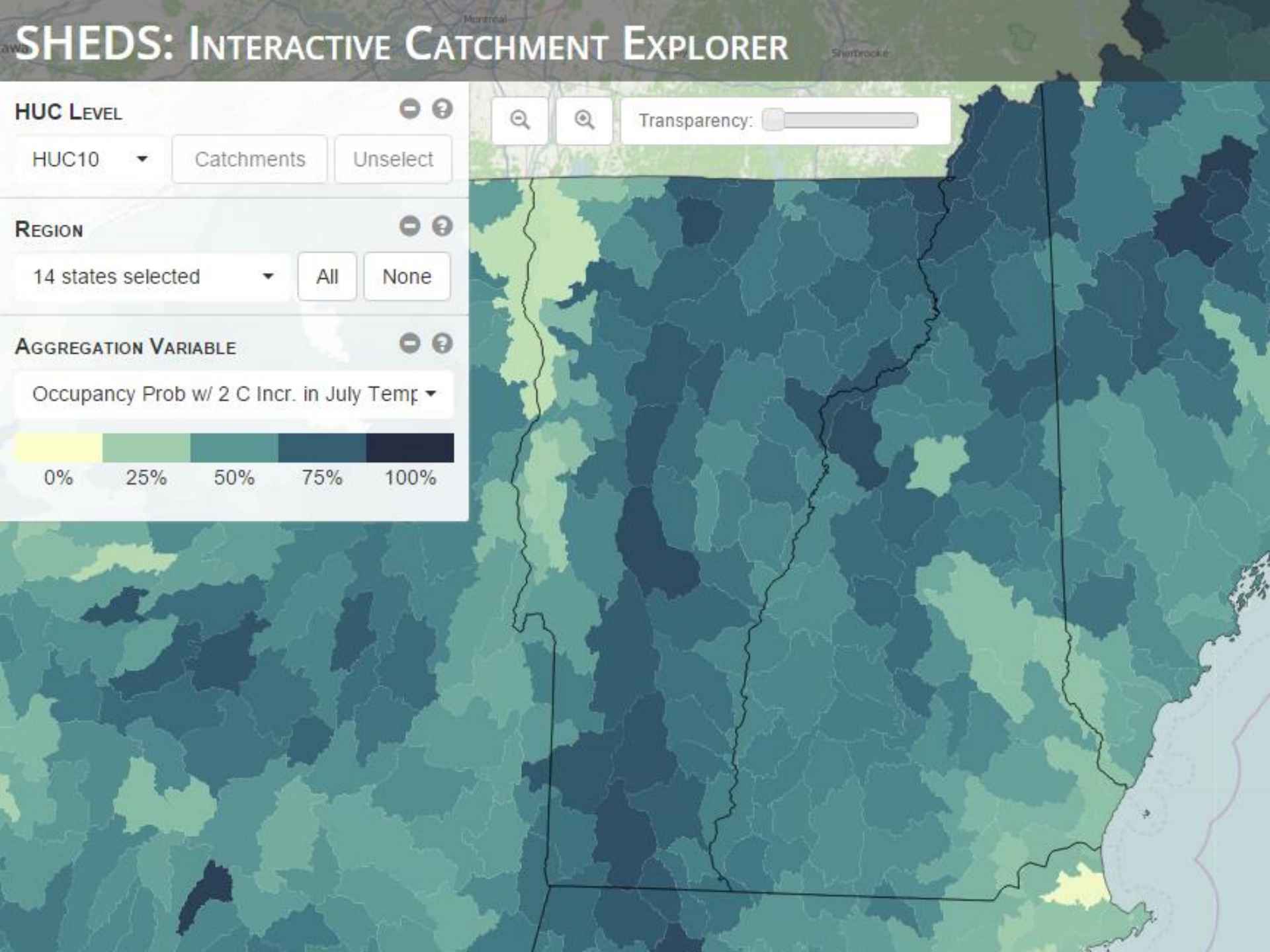
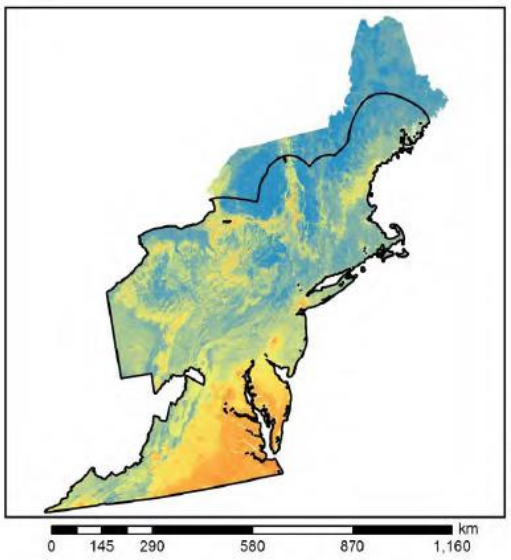
SHEDS: Interactive Catchment Explorer



Conservation Design: Priority Amphibian and Reptile Conservation Areas (PARCAs)



Habitat and climate models for 60+ species

+ Landscape integrity

Draft PARCAs to States Sept. 2015

Map of priority areas for conservation of reptiles and amphibians

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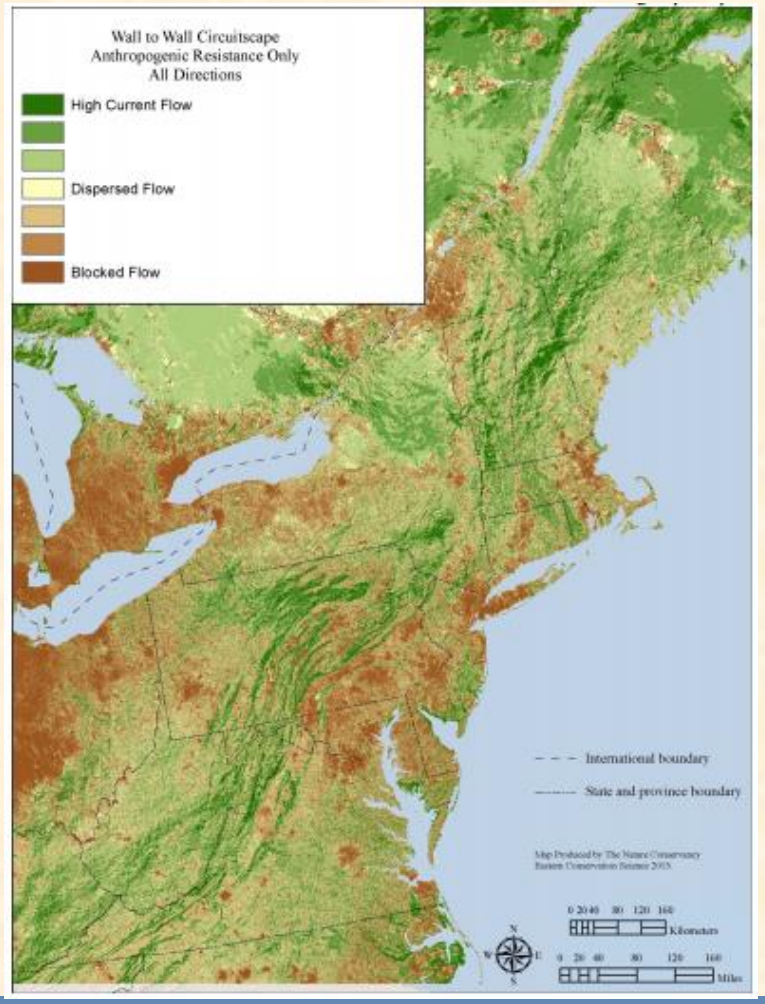
Conservation Design: Permeable Landscapes for Wildlife

Key product: assessment of permeability (connectivity) of landscapes for wildlife, accounting for climate gradients

One key application: identify important 'pinchpoints' critical for movement



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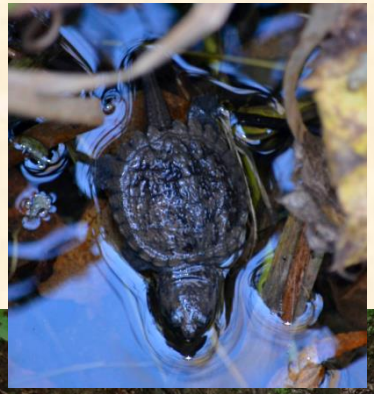
Conservation Design:
Increasing Aquatic Connectivity & Flood Resiliency



North Atlantic Aquatic Connectivity Collaborative

NAACC

Search Crossings | Login

Road Stream Crossings:

Location:
All States [9549]
All Streams
All Watersheds
Personnel:
Any Observer
Any Coordinator

Other:
Survey ID:
Crossing Code:
All Evaluations
25 per page

Dates:
Last updated from ... 2/22/2005
Last updated until ... 6/16/2015
Date observed from ... 8/5/2002
Date observed until ... 6/16/2015

Search

Search Help

using 'Survey ID' rather than 'Crossing Record ID' on the search page.
ered into the database for a field survey plus additonal crossing records for any
'Crossing Record ID' of the first record entered for a survey becomes the 'Survey ID.'
one record, which is either the first record entered or, if the survey has more
d for that survey.
D-HUC8 watersheds.
ported reports and shapefiles.
m crossing records and then click 'Search'.
you leave the search page, use the back button to return.
ch Crossings" link on any page.
esent the number of crossing locations surveyed.
or a search may be different than the number of crossing locations surveyed
f a crossing location.)
also generate reports using the links provided.

Unified protocol being used throughout the region

UMASS AMHERST

The Nature Conservancy
Protecting nature. Preserving life.

North Atlantic LCC
North Atlantic Landscape Conservation Cooperative

FOREST SERVICE U.S. DEPARTMENT OF AGRICULTURE

U.S. FISH & WILDLIFE SERVICE

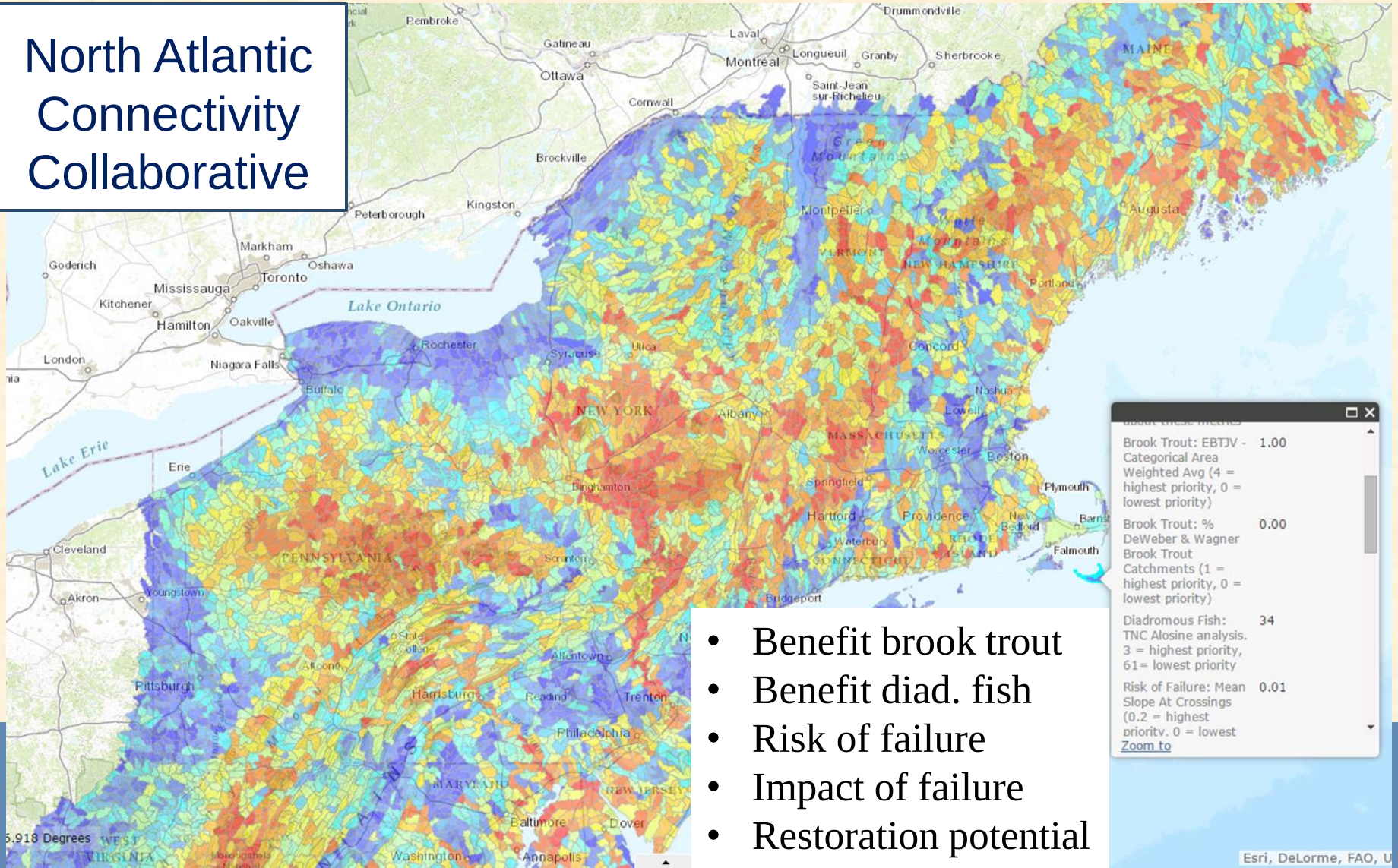
VERMONT
AGENCY OF NATURAL RESOURCES

North Atlantic Landscape Conservation Cooperative

Habitat Restoration:

Where should we focus effort to restore Aquatic Connectivity and Flood Resilience?

North Atlantic Connectivity Collaborative



- Benefit brook trout
- Benefit diad. fish
- Risk of failure
- Impact of failure
- Restoration potential

Welcome to our new search

(Note that 70 of 74 records in your search results have been mapped. Only recor

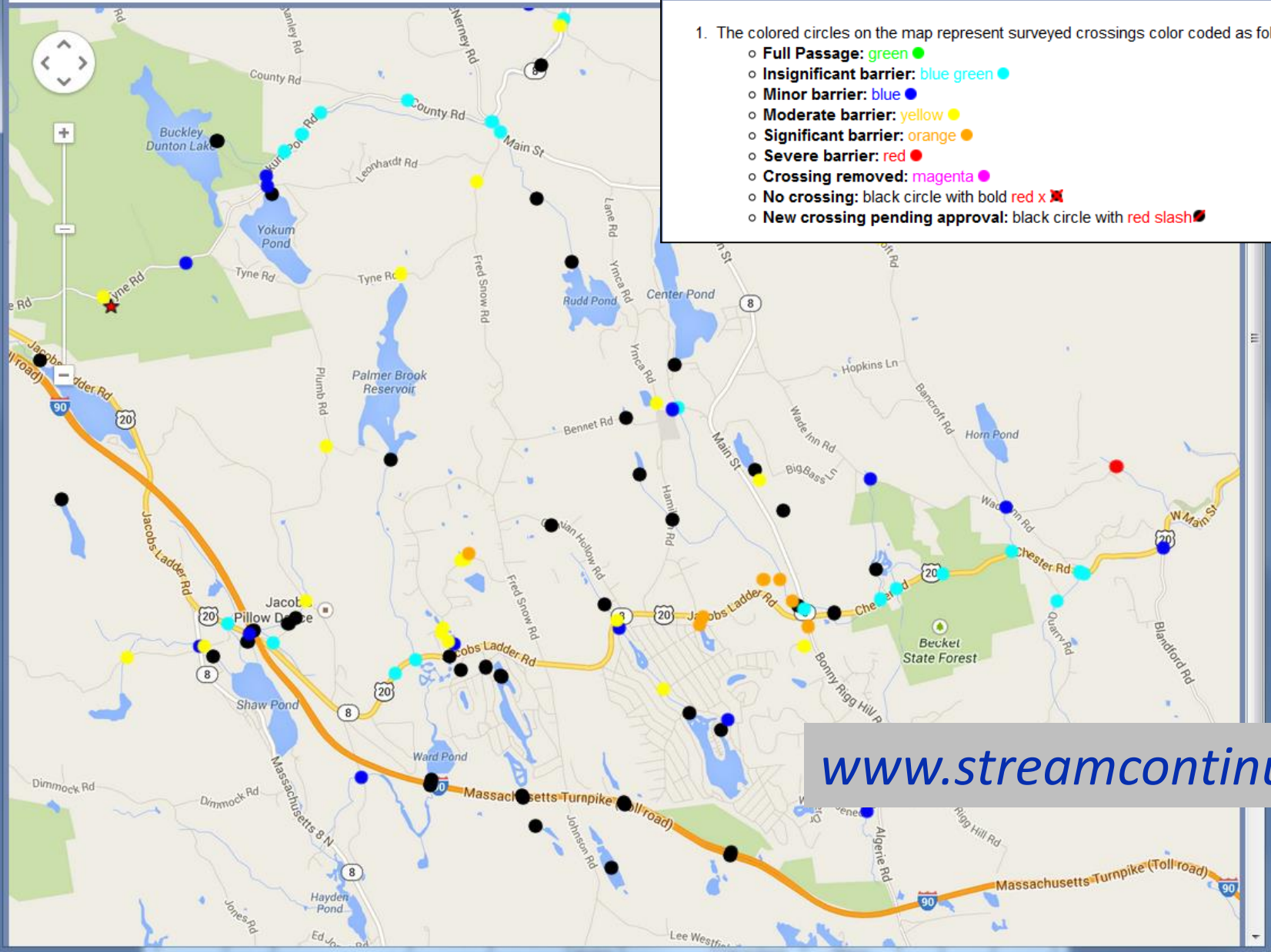
Map information Click to show/hide map information

Welcome to our new search results map page!

(Note that 70 of 74 records in your search results have been mapped. Only records having valid xy cross

Map information Click to show/hide map information

1. The colored circles on the map represent surveyed crossings color coded as follows:
   - **Full Passage:** green
   - **Insignificant barrier:** blue green
   - **Minor barrier:** blue
   - **Moderate barrier:** yellow
   - **Significant barrier:** orange
   - **Severe barrier:** red
   - **Crossing removed:** magenta
   - **No crossing:** black circle with bold red x
   - **New crossing pending approval:** black circle with red slash



www.streamcontinuity.org

Conservation Design: Tidally Influenced Road Stream Crossing Assessment and Prioritization

Synthesis of organism passage considerations at tidally influenced crossings

Initial steps - September 2015 Portsmouth Workshop

critique the criteria

Draft protocol & scoring system by July 2017

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Multi-LCC projects

– Upper Midwest Great Lakes and North Atlantic LCC's Aquatic Habitat Connectivity Collaboration

- Workshop - compare approaches to aquatic barrier prioritization and optimization

- Identify mutually beneficial activities to improve both aquatic habitat and infrastructure resilience

UPPER MIDWEST & GREAT LAKES
LANDSCAPE CONSERVATION COOPERATIVE

North Atlantic Landscape Conservation Cooperative

Multi-LCC projects

Atlantic and Gulf Coast Resiliency Project

-Synthesize and deliver tools and information to coastal decision makers

-Assess conservation actions to increase resilience of coastal communities and natural resources

Emily Powell, Coastal Resilience Research Associate

North Atlantic Landscape Conservation Cooperative

Conservation Design:
Increasing Resiliency of Tidal Marsh Habitats and Species in the Face of Storms & Sea Level Rise

- Monitoring and assessment of different restoration approaches for marsh resiliency
  - Vegetation and wildlife response (USFWS, SHARP- U Maine, UNH, U Conn, U Del, SUNY)

- Develop/refine models for understanding impacts of sea level rise and storms on tidal marshes and marsh species
  - Modeling marsh community response (USC, LSU, USGS)

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Increasing Resiliency of Tidal Marsh Habitats and Species in the Face of Storms & SLR

- Decision support models and incorporation into decision model framework
  - UMass, TNC

- Delivery of results to partners
  - NROC, MARCO

North Atlantic Landscape Conservation Cooperative

Increasing Resiliency of Beach Habitats and Species in the Face of Storms & Sea Level Rise

- Expand SLR response/plover model to Region
  - USGS, Virginia Tech
- Collect beach-nesting bird location and habitat data on NWRS and NPs
  - USFWS, NPS, USGS (iPlover), VA Tech
- Inventory of beach and inlet modifications before and after Hurricane Sandy
  - Terwilliger Consulting

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Increasing Resiliency of Beach Habitats and Species in the Face of Storms & Sea Level Rise

- Assess effects of beach management & stabilization projects in NY& NJ on beach habitats and species
  - Virginia Tech, Rutgers, Conserve Wildlife NJ
- Deliver results to partners
  - Rutgers, NROC, MARCO

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DOI Metrics Expert Group- Report

Recommendations for assessing the effects of the DOI Hurricane Sandy Mitigation and Resilience Program on ecological system and infrastructure resilience in the Northeast coastal region

https://www.doi.gov/hurricanesandy/news/hurricane-sandy-project-metrics-report

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