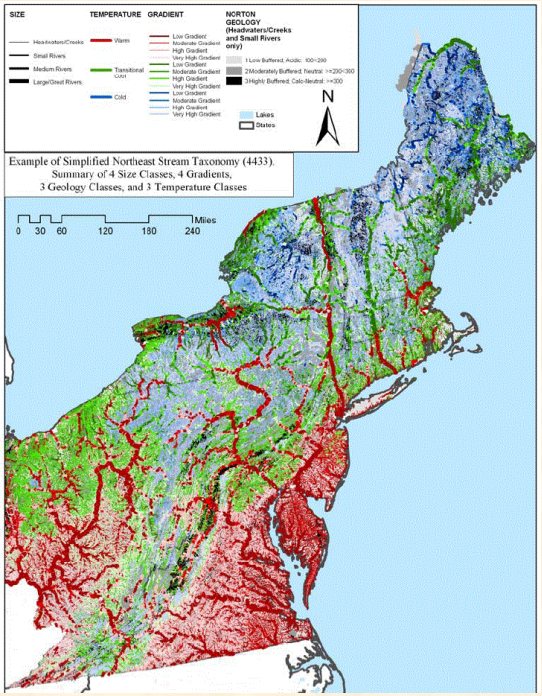
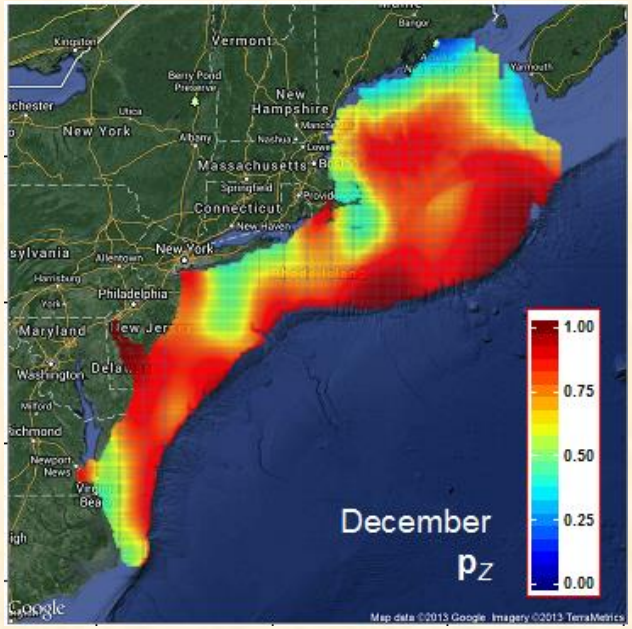
Products, Tools, and Uses of North Atlantic LCC Projects

Steering Committee Meeting
April 22, 2015





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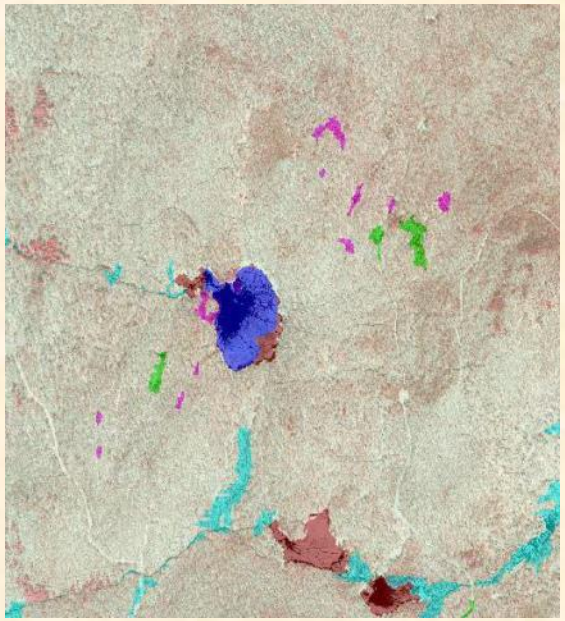
Foundational Mapping: Compilation of Regional Vernal Pool Data

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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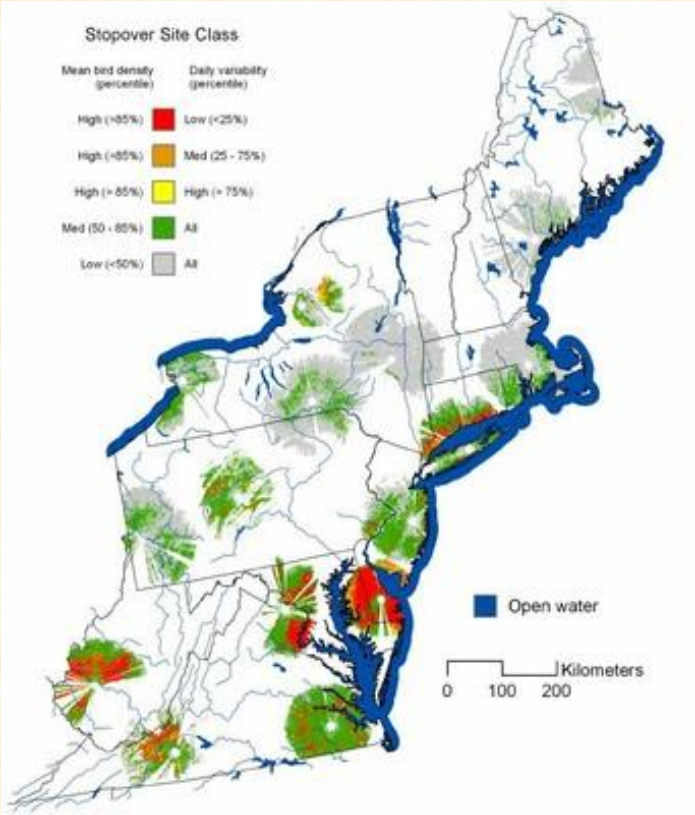
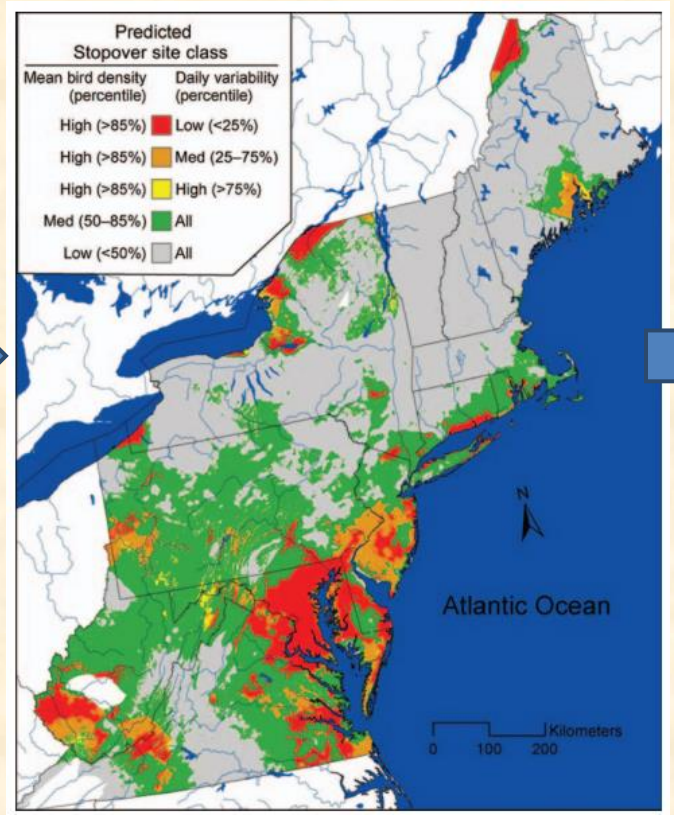
Foundational Mapping: Important Migratory Landbird Stopover Sites





Next step - Decision support tool for stopover prioritization?

Results within radar range

Regional predictions

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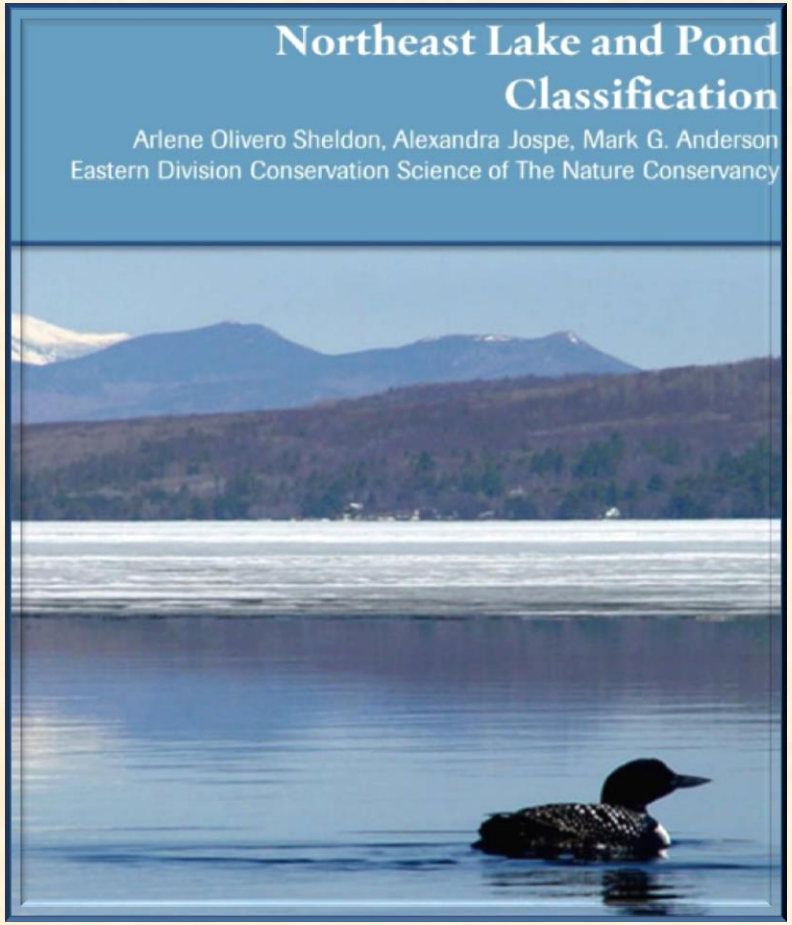
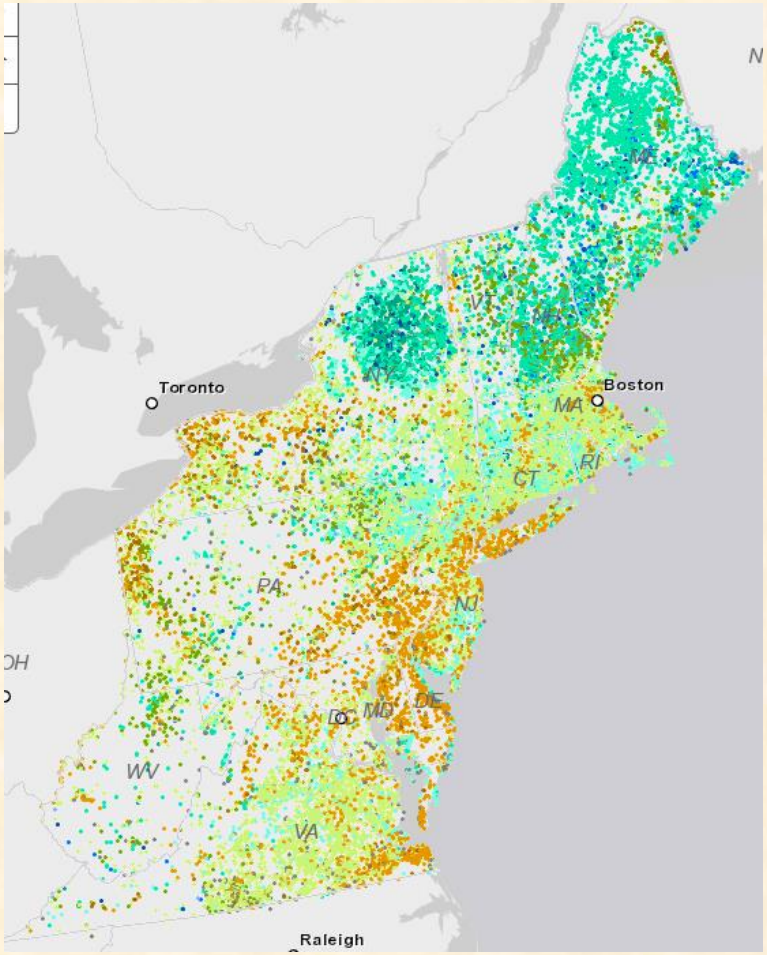
Foundational Mapping: Northeast Aquatic Classification





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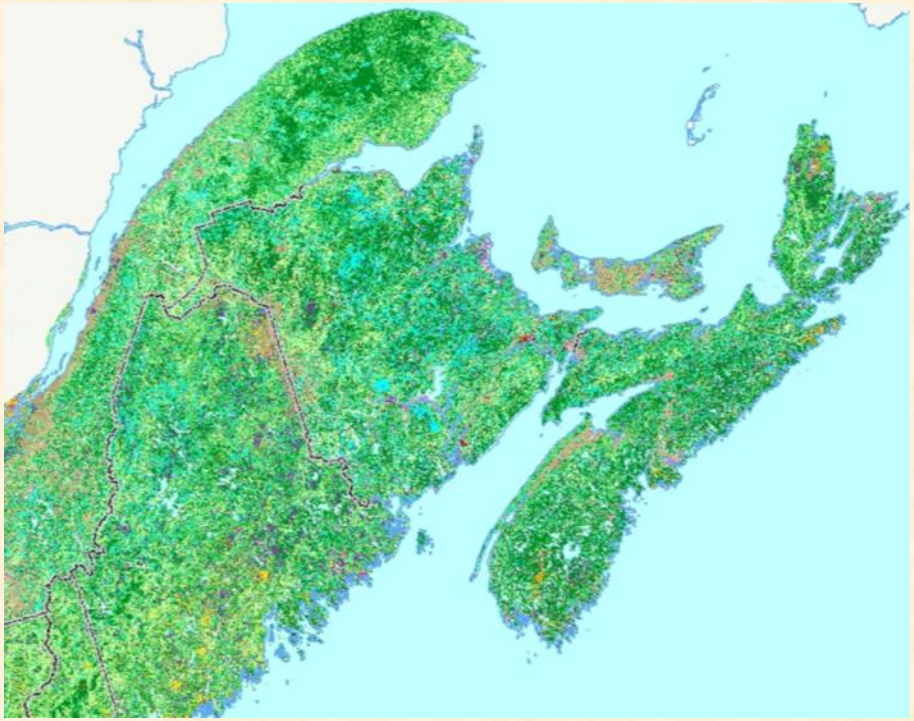
Foundational Mapping: Extension of Northeast Terrestrial Habitat Map to Canada

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



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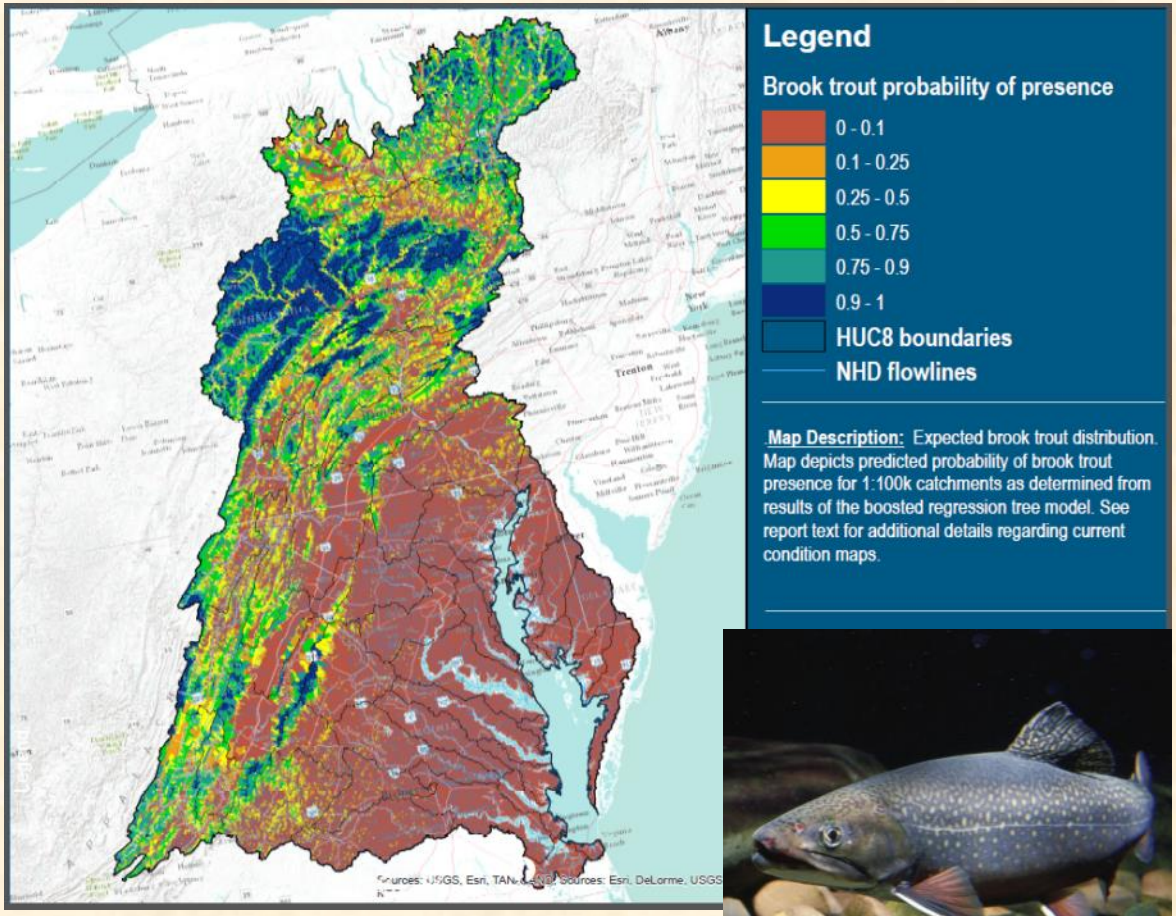
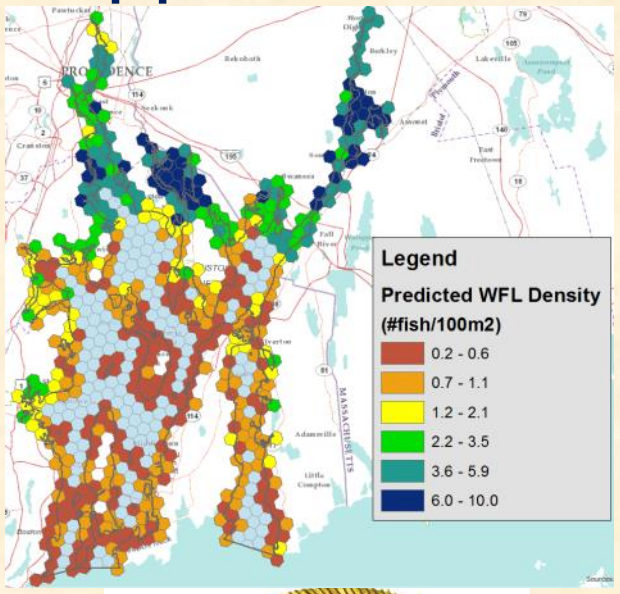
Conservation Design:
Aquatic and Coastal Decision Support Tool





River herring in development with TNC

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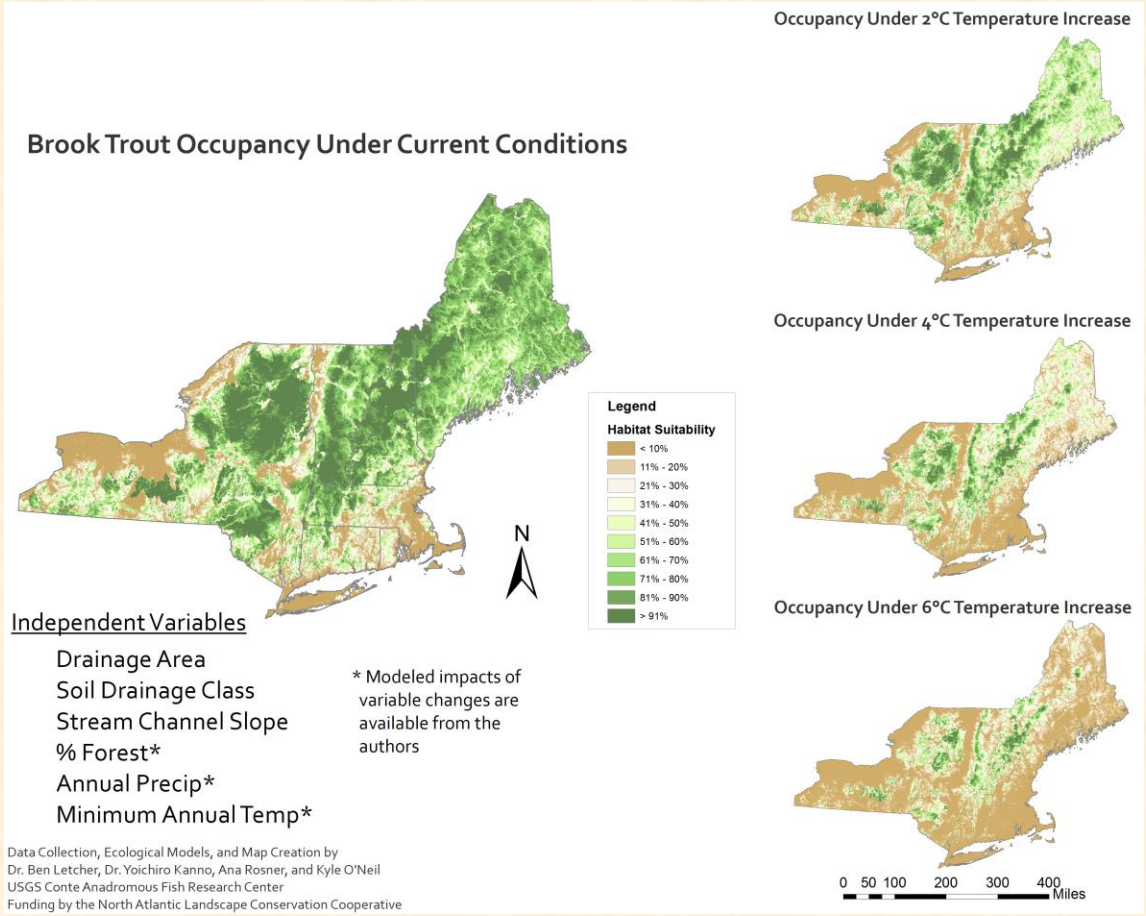
Conservation Design: Forecasting Streams and Brook Trout



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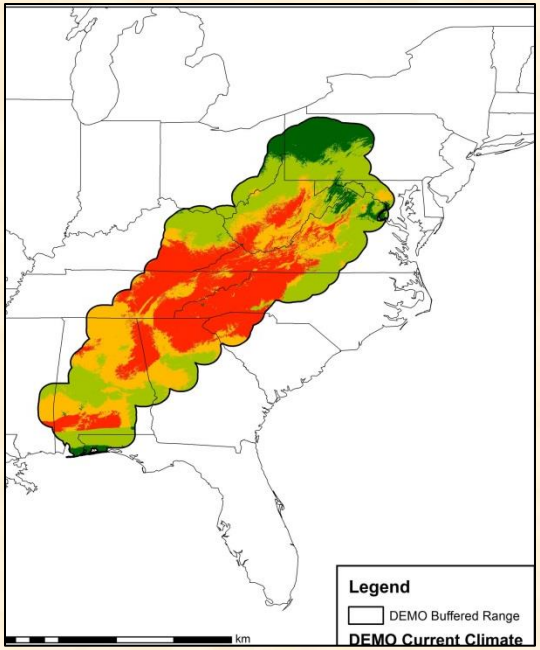
Conservation Design: Priority Amphibian and Reptile Conservation Areas (PARCAs)



Habitat and climate models for 60+ species

+ Landscape integrity

Map of priority areas for conservation of reptiles and amphibians

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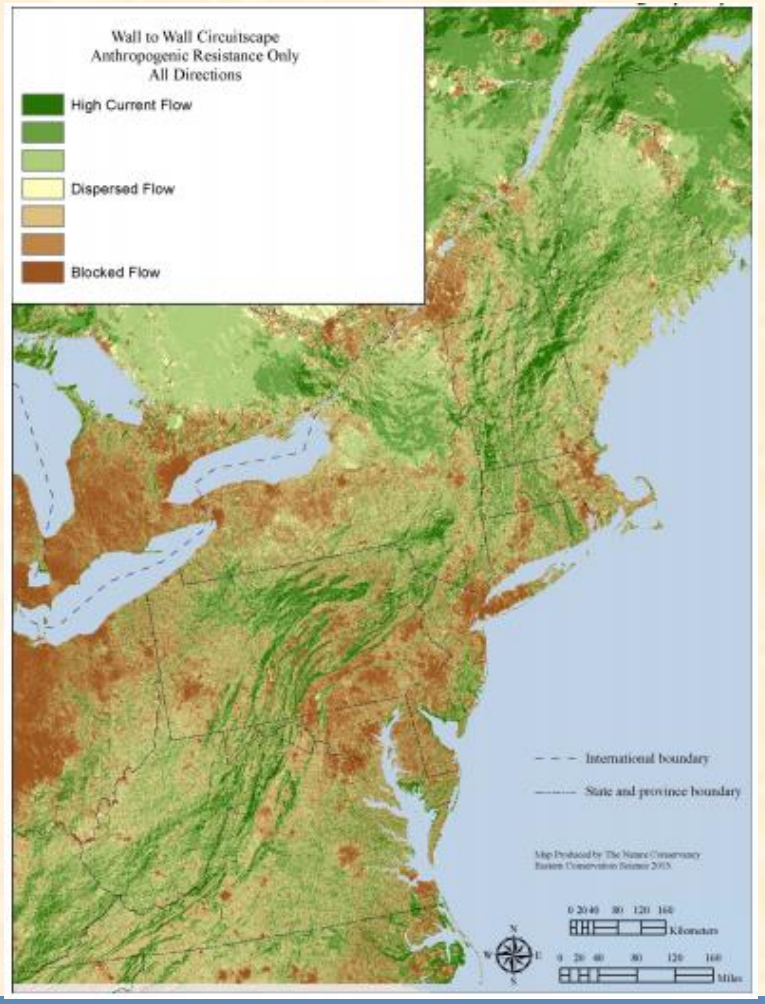
Conservation Design: Permeable Landscapes for Wildlife

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

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



North Atlantic Landscape Conservation Cooperative

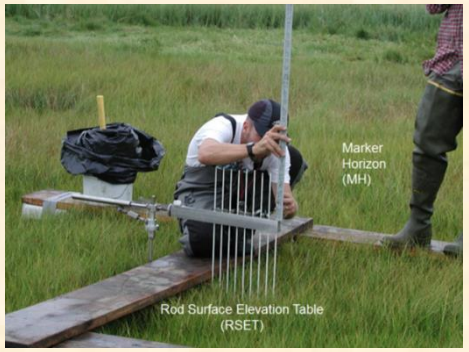
Increasing Resiliency of Tidal Marsh Habitats and Species in the Face of Storms & SLR

- Develop/refine models for understanding impacts of sea level rise and storms on tidal marshes and marsh species
  - Vegetation and wildlife response (SHARP)
  - Modeling marsh community response (USC, LSU, USGS)
- Decision support models and incorporation into decision model framework
  - UMass, TNC
- High/low marsh mapping, elevation surveys
  - SHARP (U Maine, U Del)
- Monitoring and assessment of effectiveness of restoration for marsh resiliency
  - USFWS, NPS, SHARP (U Maine, U Conn, U Del, SUNY)
- Delivery of results to partners
  - NROC, MARCO

North Atlantic Landscape Conservation

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

North Atlantic LCC Role	Coordinating overall project among P.I.s and partners: FWS, USGS, SHARP (UDel, UConn, UMaine, ME DIFW, SUNY), USC, LSU, Umass, TNC, NROC, and MARCO
Products	Regional maps and decision support models for tidal marsh restoration and management for habitats and species; evaluation of different marsh restoration approaches for increasing resiliency under different conditions
Available 3-6 months	Consistent monitoring metrics; initial assessments of tidal marsh integrity
Longer Term	Complete models and results delivered to partners (2016); initial post restoration results
Intended Users	Natural resource management and planning agencies, species managers, NGO's



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)
- Inventory of beach and inlet modifications before and after Hurricane Sandy
  - Terwilliger Consulting
- Assess effects of beach stabilization projects in NY& NJ on beach habitats and species
  - Virginia Tech, Rutgers, Conserve Wildlife NJ
- Deliver results to partners
  - Rutgers, NROC, MARCO

North Atlantic Landscape

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

North Atlantic LCC Role	Coordinating overall project among P.I.'s and partners, CSC , USGS, FWS, Virginia Tech, Rutgers, TCI, Conserve Wildlife NJ, NROC, and MARCO
Products	Regional decision support models for coastal beach management and restoration for beach habitats and species (e.g., Piping Plover) in the face of storms and SLR; evaluation of the effectiveness of beach restoration & management
Available Now	iPlover survey results; Pre-hurricane survey results of inlets and beaches
Available 3-6 months	Initial post-hurricane beach nesting bird results
Intended Users	Beach managers, shorebird community

North Atlantic Landscape Conservation Cooperative

Increasing Resiliency & Improving Standards for Culverts & Road Stream Crossings to Future Floods While Restoring Aquatic Connectivity

- Coordination of regional team; consistent online database, regional protocols for assessing culvert condition and suitability for passage, passage assessment criteria
  - UMass, TNC
- Prioritization of road stream crossings for surveys, targeted surveys
  - TNC, UMass, FWS, Wildlife Management Institute, States
- Pilot project on vulnerability of road-stream crossings to future floods
  - UMass, NE Climate Science Center
- Training for states, towns
  - Trout Unlimited, FWS

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Conservation Design: Increasing Aquatic Connectivity and Flood Resiliency (LCC + Hurricane Sandy)

North Atlantic LCC Role	Sponsoring/coordinating 2 related projects led by UMass Amherst, USFWS, State F&W agencies, TNC, USGS, USFS, Trout Unlimited
Products	Comprehensive, road-stream crossings dbf; survey protocols and standards; prioritized survey scheme; flood resilience models; prioritization to improve fish passage and reduce flood risks
Available Now	Survey prioritization scheme, survey protocols for first field season (not tidal)
Longer Term	Complete datasets and reports (2016); coordinate with Great Lakes
Intended Users	Natural resource management agencies, transportation and emergency communities

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