

## The North Atlantic LCC in Maine

The North Atlantic Landscape Conservation Cooperative (LCC) is an applied science and management partnership that builds upon a long history of collaborative conservation in the Northeast region. It is a forum to unite agencies and stakeholders around common goals for sustaining natural and cultural resources, and to develop tools and strategies to achieve those goals in the face of threats and uncertainty.



Foundational information, assessments, and tools supported by the North Atlantic LCC offer resources for partners in Maine to protect important species, habitats, and landscapes now and in the future. These products were designed to address specific needs expressed by partners and partnerships in Maine including:

- Regionally consistent habitat maps
- Regional context and conservation opportunity areas for State Wildlife Action Plan updates
- Prioritization tools for conservation of brook trout, piping plover, and other key species
- Conservation strategies to address sea level rise and other climate change impacts
- Consistent approaches for assessing and prioritizing aquatic connectivity

## Examples of North Atlantic LCC Science Products

### AQUATIC CONSERVATION RESOURCES

#### Forecasting Changes in Aquatic Systems and Resilience of Brook Trout

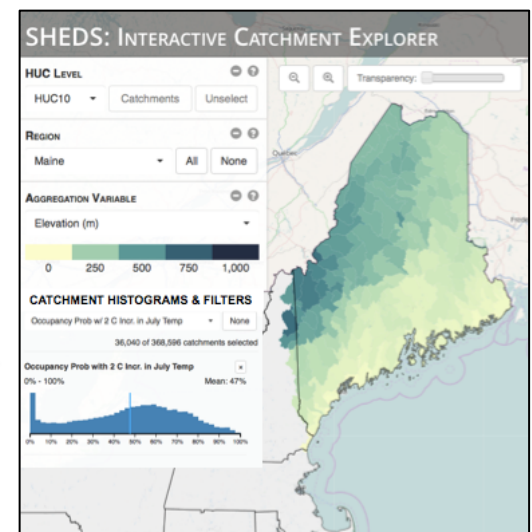
A decision-support tool to help prioritize areas and management strategies by predicting changes in stream temperature, flow, and brook trout occupancy based on expected impacts of climate change and development.

#### Products (available now)

- Modeled current and future stream temperatures across Northeast
- Web mapping tool to visualize predicted persistence of local brook trout populations under various climate change scenarios

#### Contact

- Ben Letcher, US Geological Survey: [bletcher@usgs.gov](mailto:bletcher@usgs.gov)
- Scott Schwenk, North Atlantic LCC: [william\\_schwenk@fws.gov](mailto:william_schwenk@fws.gov)



## Learn more

- Interactive Catchment Explorer: <http://ice.ecosheds.org>
  - North Atlantic LCC Projects page: <http://northatlanticlcc.org/projects/brook-trout-and-stream-temp-modeling/brook-trout-and-stream-temp-modeling>
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## North Atlantic Aquatic Connectivity Collaborative (NAACC)

A network of partners sharing resources to collectively take on the work of assessing road-stream crossings across the region, the NAACC provides a framework for prioritizing upgrades to bridges and culverts in order to improve passage for fish and wildlife while increasing resiliency to future floods.

### Products (available now)

- Regional network of partners and resources to coordinate assessments and upgrades to road-stream crossings
- Standard protocols and training for conducting road-stream assessments
- Regional database of road-stream crossings
- Web-based tools to prioritize upgrades based on both ecological benefits and resiliency

### Contacts

- Eric Martin, The Nature Conservancy: [emartin@tnc.org](mailto:emartin@tnc.org)
- Alex Abbott, US FWS Gulf of Maine Field Office: [alex\\_abbott@fws.gov](mailto:alex_abbott@fws.gov)
- Andrew Milliken, North Atlantic LCC: [andrew\\_milliken@fws.gov](mailto:andrew_milliken@fws.gov)

## Learn more

- North Atlantic LCC Projects page: <http://northatlanticlcc.org/projects/aquatic-connectivity/restoring-aquatic-connectivity-and-increasing-flood-resilience>
- North Atlantic Aquatic Connectivity Collaborative: [www.streamcontinuity.org](http://www.streamcontinuity.org)

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## COASTAL & MARINE CONSERVATION RESOURCES

### Hurricane Sandy Resilience Projects

A suite of projects that integrate monitoring, models, and tools to examine beaches, tidal marshes, and aquatic connectivity, and guide decisions about how to conduct restoration, conservation, and management in the face of increasing storms and sea-level rise associated with climate change.

### Products (partial list)

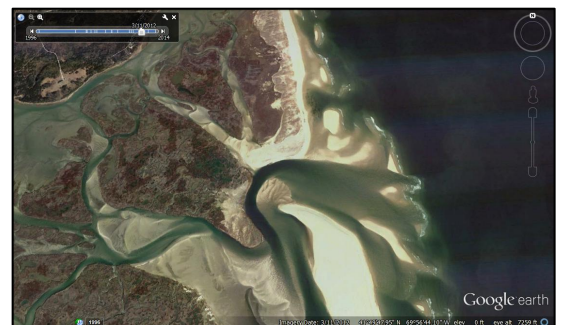
- Beach and inlet modification reports
- iPlover smartphone app to collect data on piping plover nests
- Best management practices for managing beaches for shorebirds following coastal storms
- Models of salt-marsh response to sea level rise and storms
- Monitoring and assessment of marsh restoration approaches

### Contact

- Megan Tyrrell, North Atlantic LCC: [megan\\_tyrrell@fws.gov](mailto:megan_tyrrell@fws.gov)

## Learn more

- North Atlantic LCC Coastal Resiliency page: <http://northatlanticlcc.org/groups/coastal-resiliency>



**Bird's-eye view of coastal ecosystems:** One of the Hurricane Sandy product provides an inventory of the location, status, and condition of potential piping plover breeding areas based on aerial photographs taken before, immediately after, and three years after the storm.

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## LANDSCAPE CONSERVATION RESOURCES

### Habitat Capability Models for Representative Species

These models can be used to identify potential conservation priorities based on areas that offer high quality habitat for a set of 30 representative species, selected because they typify lifecycles and habitat requirements for a larger group of species, are sensitive to landscape changes, and can be monitored feasibly.

#### Products (many available now)

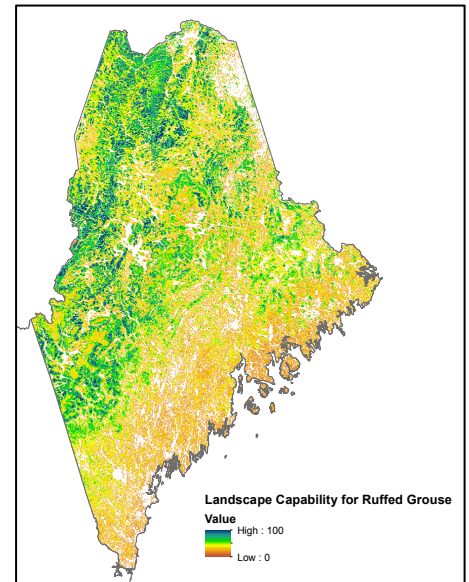
- 30 representative species models representing all major ecosystem types

#### Contact

- Kevin McGarigal, UMass Amherst: [mcgarigalk@eco.umass.edu](mailto:mcgarigalk@eco.umass.edu)
- Scott Schwenk, North Atlantic LCC: [william\\_schwenk@fws.gov](mailto:william_schwenk@fws.gov)

#### Learn more

- North Atlantic LCC Projects page:  
<http://northatlanticlcc.org/projects/designing-sustainable-landscapes/designing-sustainable-landscapes>
- UMass Designing Sustainable Landscapes page:  
[http://jamba.provost.ads.umass.edu/web/lcc/DSL\\_documentation\\_spec ies.pdf](http://jamba.provost.ads.umass.edu/web/lcc/DSL_documentation_spec ies.pdf)
- North Atlantic LCC Conservation Planning Atlas:  
<http://nalcc.databasin.org/galleries/>



*Just right for ruffed grouse: The dark blue areas are sites of relatively high habitat value for ruffed grouse and species with similar requirements.*

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### The Index of Ecological Integrity (IEI)

This tool identifies areas with the greatest capability to support biodiversity now and into the future by assessing the intactness and resilience to sustain key biological functions over time, relative to other sites within the same ecological system (habitat class).

#### Products (available now)

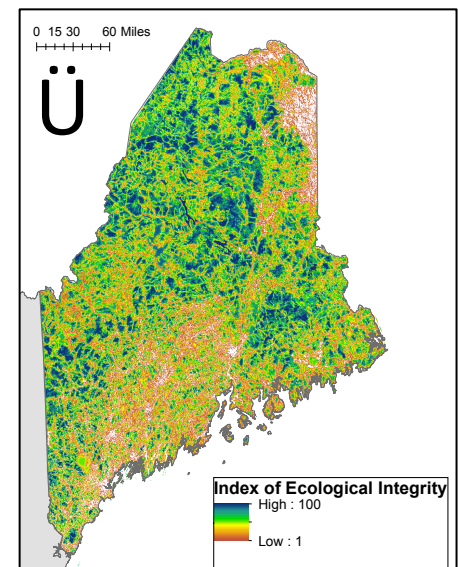
- Maps of the relative integrity of ecological systems at regional, state, and watershed scales

#### Contacts

- Kevin McGarigal, University of Massachusetts Amherst:  
[mcgarigalk@eco.umass.edu](mailto:mcgarigalk@eco.umass.edu)
- Scott Schwenk, North Atlantic LCC: [william\\_schwenk@fws.gov](mailto:william_schwenk@fws.gov)

#### Learn more

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- UMass Designing Sustainable Landscapes page:  
[http://jamba.provost.ads.umass.edu/web/lcc/DSL\\_documentation\\_integrity.pdf](http://jamba.provost.ads.umass.edu/web/lcc/DSL_documentation_integrity.pdf)
- North Atlantic LCC Conservation Planning Atlas:  
<http://nalcc.databasin.org/datasets/fb419c64f9a24beb9d4f1c1b4f46f356>



*Visualizing integrity: The dark blue areas are those that are most likely to sustain ecological functions over time according to a suite of key*

## Regional Conservation Opportunity Areas (RCOAs)

This collaborative effort brings together experts from states, conservation organizations, and universities to identify areas in the Northeast where conservation actions of individual states to protect core landscapes, enable wildlife connectivity, restore threatened ecosystems, and support Regional Species of Greatest Conservation Need and associated habitats will have the greatest regional impact.

### Products (in progress)

- Spatially delineated network of core areas and connectors across the Northeast
- Regionally consistent datasets and tools for assessing and prioritizing places and actions for Regional Species of Greatest Conservation Need and associated habitats

### Contact

- Steve Fuller, North Atlantic LCC: [steven\\_fuller@fws.gov](mailto:steven_fuller@fws.gov)

### Learn more

- North Atlantic LCC RCOAs page: <http://northatlanticlcc.org/groups/rcoa>

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## North Atlantic LCC Partners & Contributors Maine

### Steering Committee

Jim Connolly and Judy Camuso - Maine Department of Inland Fisheries  
Sharri Venno – Houlton Band of the Maliseets

### Technical Committee

Andrew Cutko - Maine Department of Conservation  
Phillip deMaynadier - Maine Department of Inland Fisheries and Wildlife

### Regional Conservation Opportunity Areas Team

Andrew Cutko - Maine Department of Conservation

### Connecticut River Watershed Landscape Conservation Design Pilot Core Team (observer)

Bob Houston U.S. FWS Gulf of Maine Field Office

### North Atlantic Vernal Pool Cooperative

Aram Calhoun - University of Maine  
Phillip deMaynadier - Maine Department of Inland Fisheries and Wildlife

### Priority Amphibian and Reptile Conservation Areas (PARCAs)

Cyndy Loftin - Maine Cooperative Fish and Wildlife Research Unit  
Phillip deMaynadier - Maine Department of Inland Fisheries and Wildlife

### Information Management Team

Lisa St. Hilaire - Maine Natural Areas Program

### Hurricane Sandy Resilience Projects

Alex Abbott – U.S. FWS Gulf of Maine Field Office  
Tom Hodgman - Maine Department of Inland Fisheries and Wildlife  
Brian Olsen and Maureen Corell - University of Maine

### North Atlantic Aquatic Connectivity Collaborative

Charles Hebson - Maine Department of Transportation  
Josh Royte - The Nature Conservancy, Maine Chapter  
Alex Abbott and Jed Wright – U.S. FWS Gulf of Maine Field Office

### White Mountains to Moosehead Lake Initiative

Jad Daley - Trust for Public Land

### Integrating Scenario-Based Sea Level Rise into Conservation Planning

Steve Walker – Maine Coast Heritage Trust (formerly Maine Department of Inland Fisheries and Wildlife)

### Lakes and Ponds Classification Project

Linda Bacon, David Halliwell, and Douglas Sutor – Maine Department of Environmental Protection