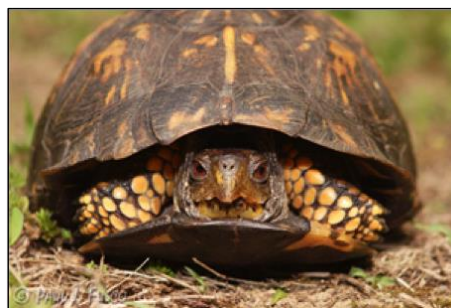


The North Atlantic LCC in Massachusetts

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 North Atlantic 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 Massachusetts 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 Massachusetts, including:

- Regionally consistent habitat maps
- Regional context and conservation opportunity areas for State Wildlife Action Plan updates
- Prioritization tools for conservation of 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 & Resilience of Brook Trout

A decision-support tool to help prioritize areas and management strategies by predicting current stream temperature, flow, and brook trout occupancy, and how conditions may change based on expected impacts from climate change and development.

Products (available now)

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

Contacts

- Ben Letcher, US Geological Survey: bletcher@usgs.gov
- Scott Schwenk, North Atlantic LCC: william_schwenk@fws.gov

Learn more

- [Interactive Catchment Explorer](#)
- [North Atlantic LCC Projects page](#)

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 coordinating to assess and upgrade 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

- Scott Jackson, University of Massachusetts Amherst: sjackson@umass.edu
- Erik Martin, The Nature Conservancy: emartin@tnc.org
- Andrew Milliken, US Fish and Wildlife Service: andrew_milliken@fws.gov
- Scott Schwenk, North Atlantic LCC: william_schwenk@fws.gov

Learn more

- [North Atlantic LCC Projects page](#)
- [North Atlantic Aquatic Connectivity Collaborative](#)

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)

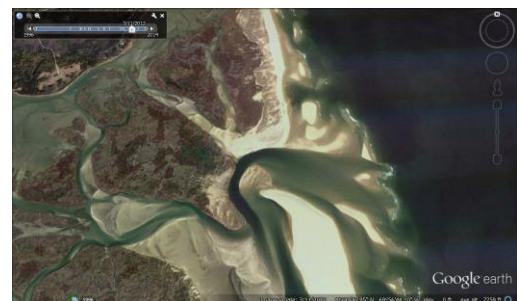
- Reports on beach and inlet modifications (e.g. shoreline hardening, beach fill, inlet opening/closing, private/public ownership) before and after the storm
- iPlover smartphone app to collect data on beach nesting birds
- Best management practices for managing beaches for shorebirds after coastal storms
- Models of salt-marsh response to sea-level rise and storms
- Monitoring and assessment of marsh restoration approaches
- Maps identifying coastal areas that will be the most ecologically resilient to climate change

Contact

- Scott Schwenk, North Atlantic LCC: william_schwenk@fws.gov

Learn more

- [North Atlantic LCC Coastal Resiliency page](#)



***Birds-eye view of the coast:** An inventory of the location, status, and condition of potential piping plover breeding areas based on aerial photographs taken before, right after, and three years after the storm, offers insight for users ranging from shorebird biologists to geologists.*

Connecticut the Connecticut

A collaborative effort using input from diverse partners to develop models that help identify key areas in the Connecticut River watershed that can support resilient ecosystems and associated species as part of an interconnected network of core areas.

Products (available now)

- Network of core areas and connections representing conservation priorities
- A suite spatial tools for assessing relative integrity, resiliency, species habitat suitability and conservation opportunities
- Predictions about climate change and development probabilities
- A watershed-wide prioritization of protection and restoration opportunities

Contacts

- Kevin McGarigal, UMass Amherst: mccgarigalk@eco.umass.edu
- Scott Schwenk, North Atlantic LCC: william_schwenk@fws.gov

Learn more

- [Connect the Connecticut website](#)
- [North Atlantic LCC Conservation Planning Atlas](#)

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 (available now)

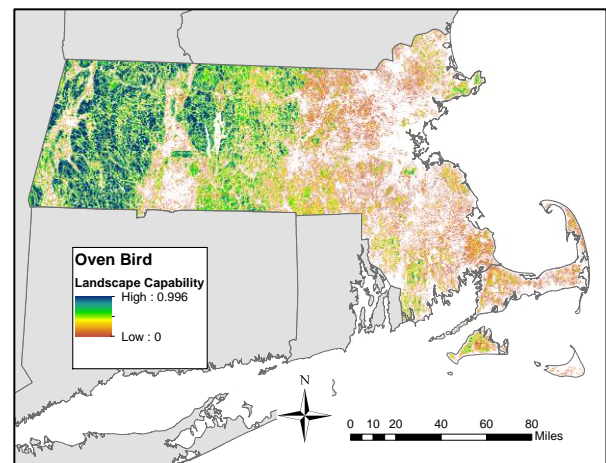
- Models for 30 species, including saltmarsh sparrow, black bear, wood turtle, and ovenbird, collectively representing all major ecosystem/habitat types in the region

Contacts

- Kevin McGarigal, UMass Amherst: mccgarigalk@eco.umass.edu
- Scott Schwenk, North Atlantic LCC: william_schwenk@fws.gov

Learn more

- [North Atlantic LCC Projects page](#)
- [UMass Designing Sustainable Landscapes page](#)
- [North Atlantic LCC Conservation Planning Atlas](#)
(See the “Wildlife Species Models” folder)



Sweet spots for ovenbird: The dark blue values indicate areas of relatively high habitat value for ovenbird and species with similar requirements.

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)

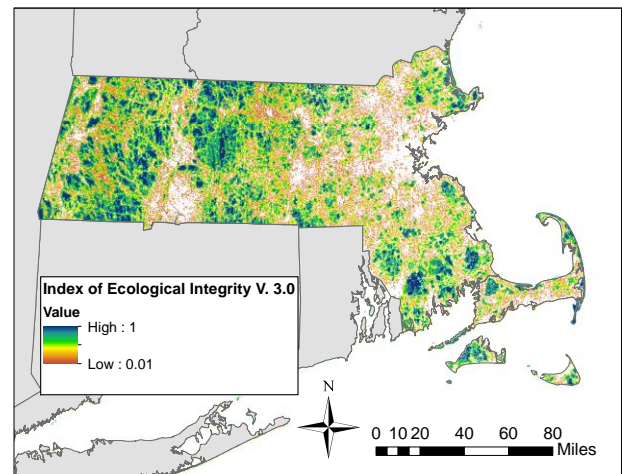
- Maps of the relative integrity of ecological systems at regional, state, and watershed scales (For stratified versions, contact North Atlantic LCC GIS Analyst Renee Vieira Farnsworth: renee_vieira@fws.gov)

Contacts

- Kevin McGarigal, University of Massachusetts Amherst: mgarigalk@eco.umass.edu
- Scott Schwenk, North Atlantic LCC: wiliam_schwenk@fws.gov

Learn more

- [North Atlantic LCC Projects page](#)
- [UMass Designing Sustainable Landscapes page](#)
- [North Atlantic LCC Conservation Planning Atlas](#)



Visualizing integrity: The dark blue values indicate areas that are most likely to sustain ecological functions over time according to a suite of key metrics.

Regional Conservation Opportunity Areas (RCOAs)

This ongoing collaborative effort has brought technical experts from 13 states representing fish and wildlife agencies, federal programs, conservation organizations, and universities together to develop a regional conservation design that lays the groundwork for unified conservation action across the entire Northeast region. The resulting resources offer voluntary guidance for partners to identify the best opportunities for conserving and restoring terrestrial, aquatic, and coastal ecosystems and the different species that depend on them.

Products (Version 1.0 available now)

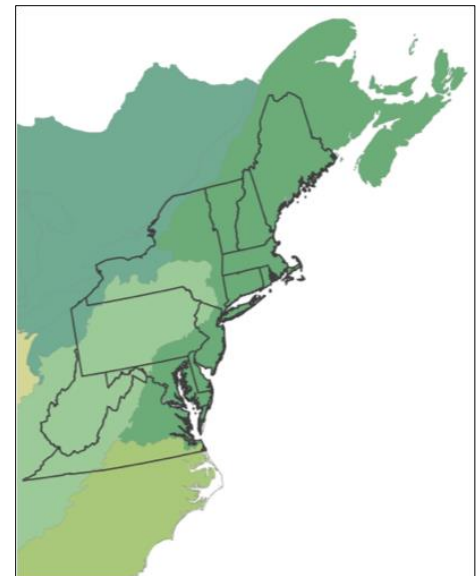
- Spatially delineated network of core areas and connectors across the Northeast
- Suite of regionally consistent datasets offering decision support through five conservation approaches: Terrestrial Core Networks, Aquatic Core Networks, Connectivity, Restoration, and Important Habitats for imperiled species and Species of Greatest Conservation Need

Contact

- Steve Fuller, North Atlantic LCC: sfuller71@comcast.net

Learn more

- [Regional Conservation Opportunity Areas Version 1.0 website](#)



One region, 13 states, thousands of conservation opportunities: Partners worked together to develop a regional conservation design that lays the groundwork for unified conservation action across the Northeast.

North Atlantic LCC Partners & Contributors in Massachusetts

Steering Committee

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Curt Griffin

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U.S. Fish and Wildlife Service

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North Atlantic Vernal Pool Cooperative

Sarah Haggerty and Jake Kubel

Mass. Fisheries and Wildlife

North Atlantic Aquatic Connectivity Collaborative

More than 12 partners from federal and state agencies, universities, and nongovernmental organizations

Connect the Connecticut

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David Stier

Springfield Science Museum

Kevin McGarigal

University of Massachusetts Amherst

Kim Lutz

The Nature Conservancy

Hurricane Sandy Resilience Projects

More than 30 partners from federal and state agencies, universities, and nongovernmental organizations

To learn more about North Atlantic LCC Science

Contact North Atlantic LCC Science Coordinator Scott Schwenk: william_schwenk@fws.gov

Explore products in the North Atlantic LCC Products database: <http://northatlanticlcc.org/products>

Explore maps and spatial data in the North Atlantic Conservation Planning Atlas: <https://nalcc.databasin.org/>

