

Landscape Conservation Cooperatives

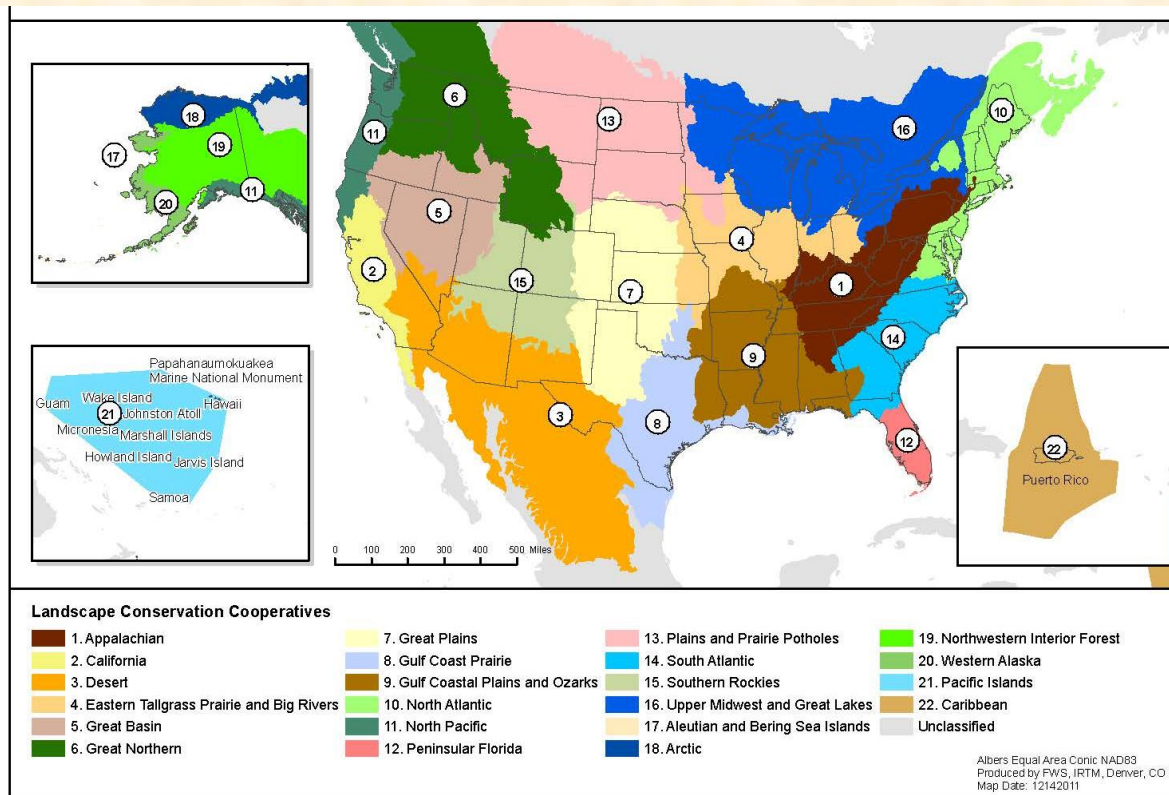
Geographic Areas and Objective



LANDSCAPE CONSERVATION
COOPERATIVES



- 22 established in 2010 by DOI
- Regional
- Self-directed partnerships
- Link science to management
- Goal: landscapes that sustain natural resources

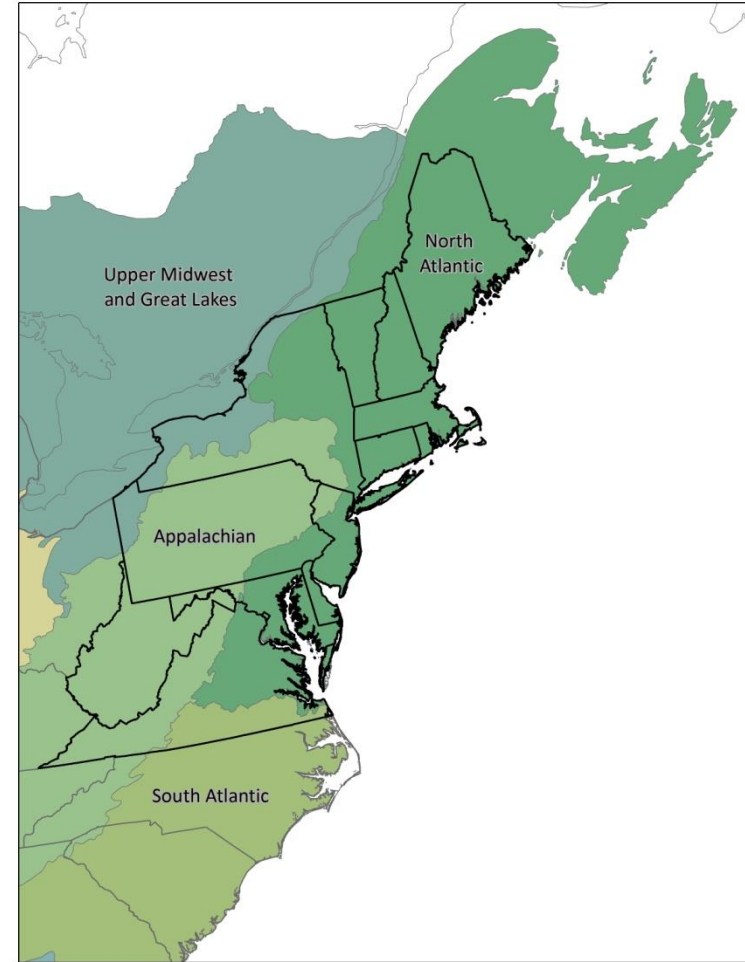


North Atlantic Landscape Conservation Cooperative



The North Atlantic LCC - Partnership

- 7 U.S. federal agencies,
- 1 Canadian federal agency
- 14 state agencies
- 1 tribal representative
- 6 non-governmental organizations



North Atlantic LCC - Governance



- Steering Committee
- Technical Committee
 - 3 Subteams: aquatic (freshwater), coastal & marine, and terrestrial & wetland (> 40 members)
- Science Delivery Team
- Project Teams (Principal Investigators plus oversight team)
- Staff



North Atlantic  Landscape Conservation Cooperative



Overview of LCC Science Needs Process

- Technical Committee recommends highest priority science needs + continued phases of existing projects
- Steering Committee considers recommendations (typically, April meeting)
- As needed, Technical Committee advises/assists LCC staff in translating science needs into science projects
 - RFP or directed funding
- Steering Committee approves projects (typically, summer or October meeting)



Criteria for Prioritizing Science Needs

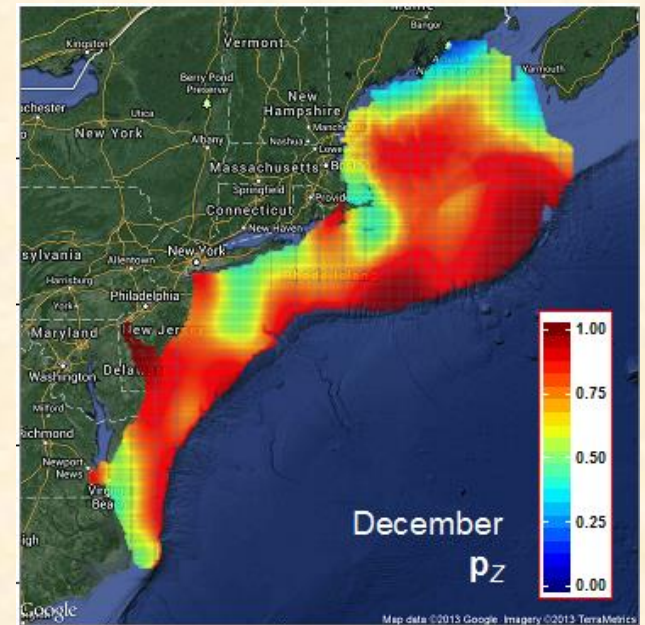
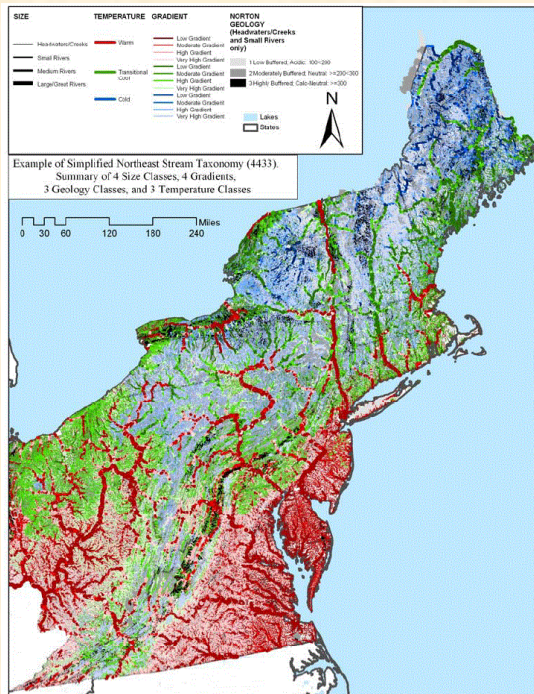
- Address LCC Strategic Plan and Northeast Conservation Framework
- Foundational needs (building blocks, modeling frameworks, information management tools)
- Address major threats and uncertainties (land use, climate impacts, energy)
- Needed to inform applied conservation decisions
- Priorities for existing partnerships
- Regional or multi-state (“landscape”) scale



February 2015

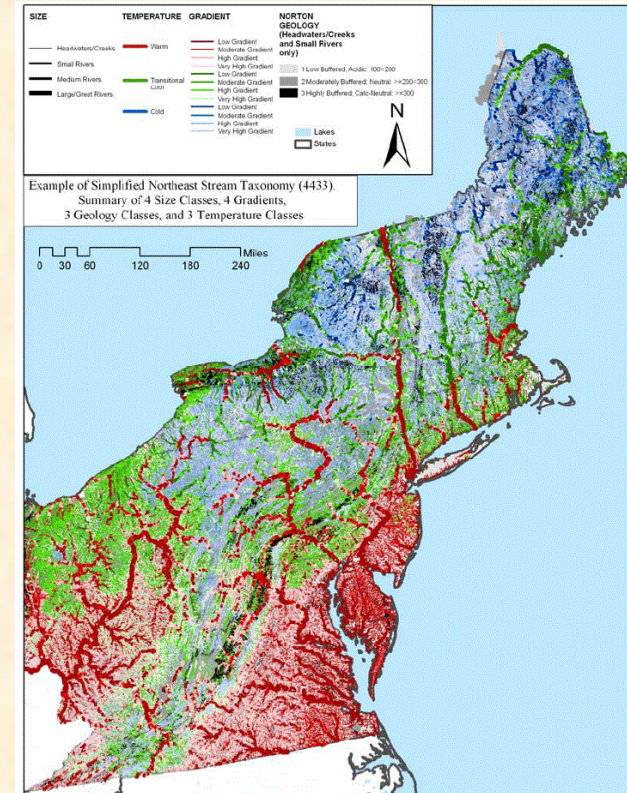
Status of North Atlantic LCC Projects

Freshwater aquatic



Foundational Mapping: Northeast Aquatic Classification

<p>North Atlantic LCC Role</p>	<p>NEAFWA Project; support TNC revisions to streams (tidal component) and lakes</p>
<p>Products</p>	<p>Classification of Northeast streams and lakes</p>
<p>Available Now</p>	<p>Stream classification including new tidal component + guide; initial lake classification</p>
<p>Available within 3-6 months</p>	<p>Enhanced lake classification including lake depth and temperature</p>



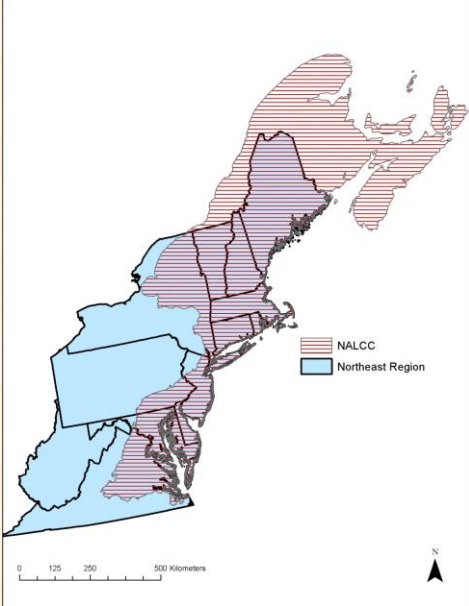
Conservation Design: Increasing Aquatic Connectivity and Flood Resiliency (LCC + Hurricane Sandy)

<p>North Atlantic LCC Role</p>	<p>Sponsoring/coordinating 2 related projects (one funded through Hurricane Sandy) led by UMass Amherst, USFWS, State F&W agencies, TNC, USGS, USFS, Trout Unlimited,</p>
<p>Products</p>	<p>Comprehensive, consistent, road-streams crossings database; recommended survey protocols and standards; prioritized surveys; flood resilience models; prioritization to improve fish passage and reduce flood risks;</p>
<p>Available Now</p>	
<p>Available within 3-6 months</p>	<p>Initial survey protocols for first field season</p>
<p>Longer Term</p>	<p>Complete datasets and reports (2016); coordinate with Great Lakes</p>



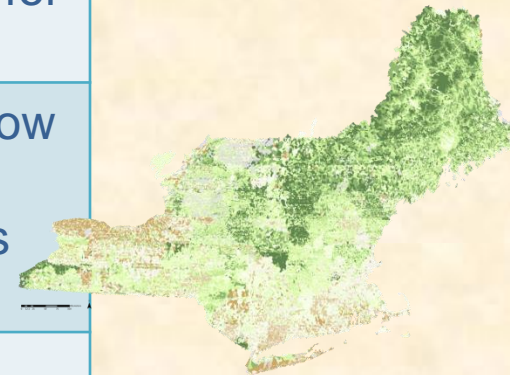
Conservation Design: *Designing Sustainable Landscapes*

North Atlantic LCC Role	Sponsoring project led by UMass Amherst
Products	Extensive spatial datasets, current and future species capability and ecological integrity, decision support tool for landscape design
Available Now	Many spatial datasets for entire Northeast
Available within 3-6 months	<ul style="list-style-type: none"> • Additional regional spatial data • Regional models for 30 rep. species • Pilot design effort in CT River watershed
Longer Term	Work will enhance coastal components and use of tools by partners; pilot regional design is proposed



Conservation Design: Forecasting Streams and Brook Trout

North Atlantic LCC Role	Sponsoring project led by USGS
Products	Aquatic data and brook trout, forecasts and decision support tools
Available Now	<ul style="list-style-type: none"> • Prototype web tool for stream conditions and climate change • Brook trout occupancy model for New York to Maine
Available within 3-6 months	<ul style="list-style-type: none"> • Projections of future stream flow and temperature • Regional brook trout forecasts • Incorporated into CT R. Pilot
Longer Term	Incorporate into conservation design; integrate with other brook trout tools (2015)



Brook trout probability of occupancy

Conservation Design: Aquatic and Coastal Decision Support Tool

North Atlantic LCC Role

Sponsoring project with Atlantic Coastal Fish Habitat Partnership, led by Downstream Strategies

Products

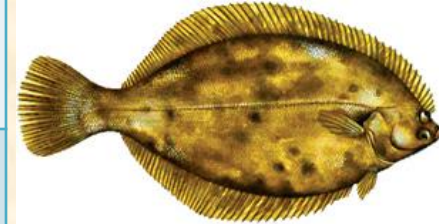
Aquatic and coastal species models and decision support tools

Available Now

Pilot models and for brook trout in the Chesapeake Bay watershed and for winter flounder

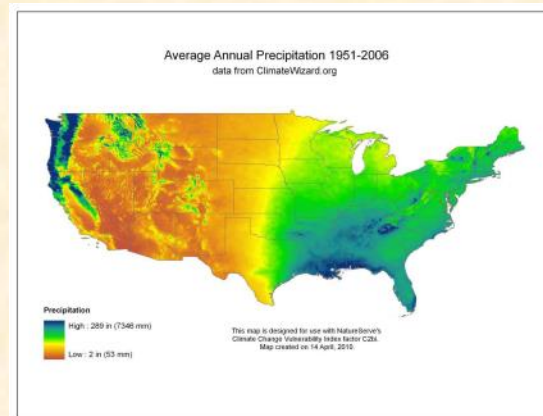
Available within 3-6 months

Decision support tools for restoration and conservation available on-line for brook trout (Chesapeake Bay), winter flounder (Long Island Sound), and river herring (coastal rivers)



Vulnerability Assessments: Species Vulnerability to Climate Change

North Atlantic LCC Role	Supporting assessment by NatureServe using Climate Change Vulnerability Index (CCVI)
Products	Report on vulnerability of 64 high regional concern, representative, and foundational species
Available Now	Draft report (in peer review)
Available within 3-6 months	Final report



Potential Science Needs and Project Continuation

- Advancing the regional stream temperature network
- Extend work to eastern Canada – for example, upgrade Northeast aquatic classification and expand to Atlantic Canada
- Landscape-scale planning for species of regional concern – e.g., state high priorities: hellbender, brook floater, green floater
- Regional conservation designs
- Revise assessments of freshwater resilience reflecting updated aquatic classifications and connectivity analyses
- Improved regional understanding of the influence of groundwater on stream temp.
- Improved monitoring and habitat characterization for diadromous species
- Ecological (environmental) flows assessment – quantity, quality & timing of flows
- Better standardization of aquatic sampling and monitoring (e.g., water quality, temp.)
- Integration of consistent water quality information into aquatic conservation design
- Better integration of regional, spatial conservation products
- Incorporation of economic and social science information (including ecological services) into conservation planning

