

April 2016

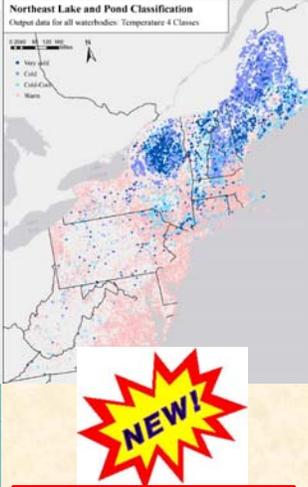
## Status of North Atlantic LCC Science Projects and Products



**North Atlantic Landscape Conservation Cooperative**

### Foundational Mapping: Northeast Aquatic Classification – U.S.

<b>North Atlantic LCC Role</b>	NEAFWA Project; support TNC revisions to streams (tidal component) and lakes
<b>Products</b>	Classification of Northeast streams and lakes
<b>Available Now</b>	<ul style="list-style-type: none"> <li>Enhanced lake classification (final revised version January 2016) + guide</li> <li>Stream classification including new tidal component + guide</li> </ul>
<b>Intended Users and Uses</b>	Agencies and NGOs working on state or regional aquatic conservation planning
<b>Connections to other projects</b>	Foundational dataset for <i>Designing Sustainable Landscapes</i> , RCOAs



**Final Revised Lakes & Pond Classification  
January 2016**

**North Atlantic Landscape Conservation Cooperative**

### Foundational Mapping: Northeast Aquatic Classification - Canada

<b>North Atlantic LCC Role</b>	Sponsoring project led by Nature Conservancy of Canada	
<b>Products</b>	Classification of Southern Quebec and Atlantic Canada streams	
<b>Available Now</b>	Many compiled spatial datasets that are being used for the classification	
<b>Longer Term</b>	Consistent, classified stream network spanning Atlantic Canada and Northeast U.S.	
<b>Intended Users and Uses</b>	Agencies and NGOs working on state or regional conservation planning	

**Project Kick-off Meeting with more than 10 partners  
December 2015**

**North Atlantic Landscape Conservation Cooperative**

### Foundational Mapping: Northeast Terrestrial Habitat Map

<b>North Atlantic LCC Role</b>	Support revising NEAFWA-sponsored project by TNC and UMass	
<b>Products</b>	Classified terrestrial habitat map	
<b>Available Now</b>	Expansion to Canadian portion of LCC (August 2015) March 2014: UMass enhancements to reflect roads, streams, development, and revised coastal NWI Virginia revisions (2012)	
<b>Intended Users and Uses</b>	Many organizations involved in conservation planning & design and climate adaptation; Canadian and U.S. partners working on trans-boundary conservation	
<b>Connections to other projects</b>	Foundational dataset for <i>Designing Sustainable Landscapes</i> , RCOAs	

**Canada Expansion Completed  
Sept. 2015**

**North Atlantic Landscape Conservation Cooperative**

## Foundational Mapping: Permeable Landscapes for Wildlife

<b>North Atlantic LCC Role</b>	Sponsoring project by TNC	
<b>Products</b>	Report and dataset on relative permeability (connectivity) of landscape for wildlife, accounting for climate change	
<b>Available now</b>	Draft final report and data	
<b>Available 3-6 months</b>	Final report and data, integrated into RCOA project	
<b>Intended Users and Uses</b>	Incorporate into regional, state, and LCC planning efforts for large-scale wildlife connectivity and climate change adaptation	
<b>Connections to other projects/products</b>	<i>Designing Sustainable Landscapes</i> , RCOAs, species climate change vulnerability assessments	

**North Atlantic Landscape Conservation Cooperative**

## Foundational Mapping: Compilation of Regional Vernal Pool Data

<b>North Atlantic LCC Role</b>	Sponsoring project by Vermont Center for Ecostudies and UVM (initiated Jan. 2014)	
<b>Products</b>	Regional GIS dataset of locations of potential or documented vernal pools; methods for remote sensing location of pools	
<b>Available Now</b>	Complete report and dataset on NALCC Conservation Planning Atlas	
<b>Available 3-6 months</b>	Accepting additional vernal pool records	
<b>Intended Users and Uses</b>	Organizations for amphibian, reptile, and vernal pool conservation	

Final Report & Data Released January 2016

**North Atlantic Landscape Conservation Cooperative**

## Foundational Mapping: Important Migratory Landbird Stopover Sites

<b>North Atlantic LCC Role</b>	Co-sponsoring with USFWS, MD, USGS, U. of DE (lead), VA, VCU, TNC, NASA
<b>Products</b>	Improved models of important fall migration stopover sites, based on weather radar and field surveys
<b>Available Now</b>	6 years of analyzed radar data; initial field survey results; preliminary report
<b>Longer Term</b>	Complete report and maps
<b>Intended Users and Uses</b>	Bird habitat conservation managers at regional, state, and local levels to protect and manage key stopover sites

**North Atlantic Landscape Conservation Cooperative**

## Foundational Mapping: Marine Birds

<b>North Atlantic LCC Role</b>	Sponsoring a project by NC State University, NOAA, BRI, CSI/CUNY
<b>Products</b>	Mapping of seasonal seabird abundance of 24 species to inform marine planning
<b>Available Now</b>	Final report; marine bird occurrence maps by species and season
<b>Intended Users and Uses</b>	Regional ocean planning and risk assessment for wind energy, aquaculture, marine infrastructure by state and federal agencies and ocean partnerships

Final Report &  
Data Released  
Oct. 2015

**North Atlantic Landscape Conservation Cooperative**

## Foundational Data: Rare Plant Prioritization

<b>North Atlantic LCC Role</b>	Sponsoring a project by NatureServe and partners	  <div style="border: 2px solid red; padding: 5px; color: purple; text-align: center;"> <b>Project Started March 2016</b> </div>
<b>Products</b>	Prioritization and assessment of vascular plants of conservation concern for region, including Atlantic Canada.	
<b>Available Now</b>	Comprehensive regional list of plants of conservation need in development	
<b>Longer Term</b>	Updated global and regional ranks, methodology and prioritization of conservation need (2017)	
<b>Intended Users and Uses</b>	Federal and state agencies and other organizations that conserve native plant species	



**North Atlantic Landscape Conservation Cooperative**

## Decision Support: Increasing Aquatic Connectivity and Flood Resiliency (LCC + Hurricane Sandy + National LCC)

<b>North Atlantic LCC Role</b>	Sponsoring/coordinating 4 related projects led by UMass Amherst, USFWS, State F&W agencies, TNC, USGS, USFS, Trout Unlimited	 
<b>Products</b>	Comprehensive road-stream crossings dbf, survey protocols and prioritized survey scheme; trainings for implementation and use of these products; flood resilience models; prioritization to improve fish passage and reduce flood risks, trainings for towns	
<b>Available Now</b>	Final report from 1 <sup>st</sup> LCC funding; Survey prioritization scheme & protocols (not tidal); 2015 survey results; coordination with Great Lakes	
<b>Longer Term</b>	Web-based tool using culvert and dam data to generate aquatic connectivity prioritization value; structure condition assessment module; tidal module; complete datasets and reports; incorporation into prioritization tools	
<b>Intended Users and Uses</b>	Natural resource management agencies, transportation and emergency communities to assess and prioritize road stream crossing upgrades for connectivity and resilience	



**North Atlantic Landscape Conservation Cooperative**

### Decision Support: Tidally Influenced Road Stream Crossing Assessment and Prioritization

<b>North Atlantic LCC Role</b>	Sponsoring project led by UMass Amherst	
<b>Products</b>	Synthesis of organism passage considerations at tidally influenced crossings (swimming capabilities, velocities and other physical constraints); summary of existing protocols, technical committee created, draft protocol, scoring system for passability	
<b>Available Now</b>	Draft field and desktop assessment criteria from NH/TNC project	
<b>Longer Term</b>	Incorporation into NAACC protocol, database, prioritization tools	
<b>Intended Users and Uses</b>	Natural resource management agencies, transportation and emergency communities to assess and prioritize road stream crossing upgrades for connectivity and resilience	

North Atlantic Landscape Conservation Cooperative

### Decision Support: Forecasting Streams and Brook Trout

<b>North Atlantic LCC Role</b>	Sponsoring project led by USGS	
<b>Products</b>	Forecasts and decision support tools for stream temperature and brook trout	
<b>Available Now</b>	<ul style="list-style-type: none"> <li>• <i>Integrated Catchment Explorer</i> that maps results (<a href="http://ice.ecosheds.org">http://ice.ecosheds.org</a>)</li> <li>• Stream temperature projections from Virginia to Maine</li> <li>• Brook trout occupancy New York to Maine</li> </ul>	
<b>Available 3-6 months</b>	Regional brook trout forecasts	
<b>Longer Term</b>	Incorporate into conservation design; integrate with other brook trout tools	
<b>Intended Users and Uses</b>	Eastern Brook Trout JV partners and other aquatic managers; states to prioritize watershed conservation and restoration actions	

North Atlantic Landscape Conservation Cooperative

### Decision Support: Aquatic and Coastal Decision Support Tool

<b>North Atlantic LCC Role</b>	Sponsored project with Atlantic Coastal Fish Habitat Partnership, USFWS, EBTJV, TNC; led by Downstream Strategies & West Virginia U.	  <div style="border: 2px solid red; padding: 5px; text-align: center;"> <b>Fish Habitat Tool Rolled Out February 2016 <a href="http://fishhabitatool.org">fishhabitatool.org</a></b> </div>
<b>Products</b>	Aquatic and coastal species models and decision support tools to prioritize restoration and protection of fish habitat	
<b>Available Now</b>	Decision support tools for restoration and conservation available on-line for brook trout (Chesapeake Bay Watershed), winter flounder (Long Island Sound, Narragansett Bay) and river herring (coastal rivers)	
<b>Available 3-6 months</b>	Additional training materials; training as requested	
<b>Intended Users and Uses</b>	Watershed and coastal restoration planning by natural resource management agencies, fisheries managers	

**North Atlantic Landscape Conservation Cooperative**

### Decision Support: River Corridor Assessment

<b>North Atlantic LCC Role</b>	Sponsoring project with UMass Amherst and multi-partner RiverSmart Task Force	  <div style="border: 2px solid red; padding: 5px; text-align: center;"> <b>Project Started February 2016</b> </div>
<b>Products</b>	River corridor assessment methodology; GIS toolkit of river corridors that can be used to prioritize areas for actions to conserve natural and cultural resources	
<b>Available Now</b>	Project team is being organized	
<b>Longer Term</b>	Final methodology and toolkit, including prioritization and climate projections (2017)	
<b>Intended Users and Uses</b>	Natural and cultural resource management agencies, transportation and emergency communities	

**North Atlantic Landscape Conservation Cooperative**

## Conservation Design: Regional Conservation Opportunity Areas (RCOAs)

<b>North Atlantic LCC Role</b>	Coordination and support for Northeast conservation design
<b>Products</b>	Northeast conservation design, including opportunity areas for Regional Species of Greatest Conservation Need (RSGCN), habitat restoration and management, and connectivity
<b>Available Now</b>	Methodology document and interim products
<b>Available 3-6 months</b>	Version 1 for review by NALCC partners and others
<b>Longer Term</b>	Full set of opportunity areas maps accessible via Conservation Atlas
<b>Intended Users and Uses</b>	All partners engaged in SWAP implementation, land management, land protection

CORE AREAS

RSGCN HABITATS

RESTORATION

CONNECTIVITY

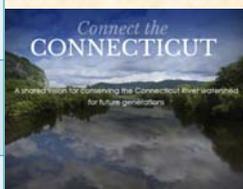




North Atlantic Landscape Conservation Cooperative

## Conservation Design: *Designing Sustainable Landscapes*

<b>North Atlantic LCC Role</b>	Sponsoring project led by UMass Amherst
<b>Products</b>	Extensive spatial datasets, current and future species capability and ecological integrity, decision support tool for landscape design
<b>Available Now</b>	<i>Connect the Connecticut</i> design; many spatial datasets for entire Northeast, regional models for 26 species
<b>Available 3-6 months</b>	<ul style="list-style-type: none"> <li>Additional regional spatial data</li> <li>Regional models for additional species (total of 30)</li> </ul>
<b>Longer Term</b>	Supporting <i>Regional Conservation Opportunity Areas</i> ; enhancing coastal components and use of tools by partners
<b>Intended Users and Uses</b>	Agencies and NGOs working on state or regional conservation planning



NEW!

Projected Development and Urban Growth Completed March 2016



North Atlantic Landscape Conservation Cooperative

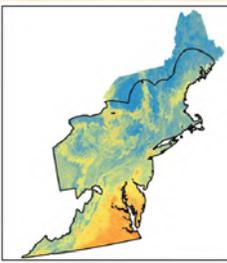
### Conservation Design: Increasing Resiliency of Tidal Marsh Habitats and Species in the Face of Storms & Sea Level Rise

<b>North Atlantic LCC Role</b>	Coordinating overall project among P.I.s and partners: FWS, USGS, SHARP (UDel, UConn, UMaine, ME DIFW, SUNY), USC, LSU, UMass, TNC, NROC & MARCO	 
<b>Products</b>	Regional maps and decision support models for tidal marsh restoration and management for habitats and species; evaluation of various marsh restoration approaches for increasing resiliency under different conditions	
<b>Available now</b>	Consistent monitoring metrics; initial assessments of tidal marsh integrity; correlations between ground based and airborne elevation observations; bathymetry for Plum Island estuary	
<b>Longer Term</b>	Complete models and results delivered to partners; initial post-restoration results	
<b>Intended Users and Uses</b>	Natural resource management and planning agencies, species managers, NGO's, land managers to plan for and address short and long term sea level rise and storm impacts	

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

<b>North Atlantic LCC Role</b>	Coordinating overall project among P.I.s and partners, CSC, USGS, FWS, Virginia Tech, Rutgers, TCI, Cons. Wild. NJ, NROC & MARCO	 
<b>Products</b>	Regional decision support models for management and restoration for beach habitats and species (e.g., beach nesting birds- BNB) in the face of storms and SLR; evaluation of the effectiveness of beach restoration & management	
<b>Available Now</b>	iPlover survey results; Pre & post Sandy inventories of inlets and beaches; pre & post Sandy habitat availability in NJ for 4 beach nesting birds	
<b>Longer term</b>	Links between SLR scenarios, coastal geomorphology changes, BNB locations in local areas and overall impacts on populations; BNB habitat availability & recommended management strategies for NY & NJ	
<b>Intended Users and Uses</b>	Beach managers, coastal management and shorebird community, species recovery teams to plan for and address short and long term sea level rise and storm impacts	

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

<b>North Atlantic LCC Role</b>	Sponsoring project led by U. of Maine and others	 
<b>Products</b>	Species models for 60+ priority herps; report with priority areas identified	
<b>Available Now</b>	<ul style="list-style-type: none"> <li>• 64 species distribution models &amp; 61 climate niche models</li> <li>• Draft PARCAs provided to states for review in Sept. 2015</li> </ul>	
<b>Available 3-6 months</b>	Full PARCA report and recommendations	
<b>Intended Users and Uses</b>	Northeast PARC, natural resource agencies and organizations to manage and protect important areas for herpetofauna	

**North Atlantic Landscape Conservation Cooperative**

## Multi-LCC projects - Atlantic and Gulf Coast Resiliency Project

<b>North Atlantic LCC Role</b>	Leading multi-LCC effort (6 LCC's, 2 Climate Science Centers)	 Emily Powell, Coastal Resilience Research Associate
<b>Products</b>	Synthesis of tools and information to coastal decision makers Thresholds of susceptibility to SLR and storms for 44 Atlantic/Gulf Coast/Caribbean priority conservation species Review of coastal ecosystem services for ecological and human resilience planning	
<b>Available Now</b>	DOI coastal resilience advisory and core teams; compilation of coastal resilience resources & tools	
<b>Available 3-6 months</b>	Species thresholds tables, full draft of reports	
<b>Longer Term</b>	Final products above	
<b>Intended Users and Uses</b>	Coastal conservation partners and communities	

**North Atlantic Landscape Conservation Cooperative**