**North Atlantic Landscape Conservation Cooperative**

**Projects with relevance to National Fish, Wildlife and Plants Climate Adaptation Strategy**

**June 27, 2013**

The North Atlantic LCC recently released its annual report for 2012: <http://www.northatlanticlcc.org/resources/resources-inbox/north-atlantic-lcc-2012-highlights-report>

A summary of North Atlantic LCC Projects that relate to *National Fish, Wildlife and Plants Climate Adaptation Strategy* Additional detail can be found at: <http://www.northatlanticlcc.org/projects>

| **Project (*and lead P.I.*)** | **Summary and recent developments** |
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| **Forecast Effects of Accelerating Sea-level Rise on the Habitat of Atlantic Coast Piping Plovers and Identify Responsive Conservation Strategies**  *Sarah Karpanty, Virginia Tech* | The overall objective of this project is to understand the potential effects of accelerating sea-level rise and altered storminess on piping plover breeding habitat on the U.S. Atlantic Coast using a Bayesian Network that couples models of plover habitat use and coastal change. Initial phase of this project to be completed by January 2014 |
| **Marine Bird Mapping and Assessment**  *Beth Gardner, NC State Univ.*  *Brian Kinlan, NOAA*  *Richard Veit, CUNY/CSI*  *Iain Stenhouse, BRI* | Creating a comprehensive map of marine bird distributions and risk assessments for the North Atlantic. Marine bird modeling initially was tested in a restricted area (Nantucket Sound), and is now being expanded. Seabird data are also being compiled. |
| **Structured Decision Making for Sea Level Rise**  *Andrew Milliken & Tim Jones, USFWS* | Completed a Structured Decision Making (SDM) Workshop with a group of 10 partners to articulate a decision problem and objectives for applying information about sea level rise to decision-making. Results are now being used to guide a sea level rise decision model funded by the Northeast Climate Science Center and being developed by USGS and Columbia University (see below). |
| **Research and Decision Support Framework to Evaluate Sea-level Rise Impacts for the U.S. Atlantic Coast**  *E. Robert Thieler, USGS*  *Radley Horton, Columbia Univ.* | One of the principal impacts of sea-level rise will be the loss of land in coastal areas through erosion and submergence of the coastal landscape. However, changes vary across space and time and are difficult to predict because landforms such as beaches, barriers, and marshes can respond to sea level rise in complicated, dynamic ways.This project will develop decision support models to address critical management decisions at regional and local scales, considering both dynamic and simple inundation responses to sea-level rise. |
| **Providing Science and Tools in Support of the North Atlantic LCC: Designing Sustainable Landscapes for Wildlife**  *Kevin McGarigal, UMass Amherst* | Developing a framework and set of models and tools for the Northeast Region to guide conservation decisions in the face of regional change from urban growth, climate change and other major drivers including impacts to representative species and ecological integrity. Includes the incorporation of sea level rise models from USGS project. |
| **Decision support tool to assess aquatic habitats and threats in North Atlantic watersheds and estuaries**  *Fritz Boettner, Downstream Strategies* | Compilation of distribution, status and threats of aquatic and coastal fish and their habitats in the watersheds and coastal zone of the North Atlantic LCC in close cooperation with Fish Habitat Partnerships. The agreement was finalized in February. Downstream Strategies is working with partners to identify stakeholders and to start planning an introductory workshop. |
| **Vulnerabilities to climate change of Northeast fish and wildlife habitats, Phase II** (through RCN grant program)  *Hector Galbraith, Manomet; George Gay, National Wildlife Federation* | Second phase of regional climate change habitat vulnerability assessment. Work on the habitat vulnerability component of this project by builds on the Phase I work funded through a 2009 RCN grant – *final draft report complete*; coastal vulnerability is focused on the development of a report and database of ongoing projects by NWF as part of a collaboration on a *NEclimateUS.org* site with NOAA and other partners – *final draft report and draft database complete*; aquatic vulnerability is focused on coldwater fish – *final draft report complete*. |
| **Use of a vulnerability index to assess species most likely to be impacted by climate change**  *P.I.: Bruce Young, NatureServe* | Regional climate change species vulnerability assessment. NatureServe developed an advisory committee, selected a list of 64 species for assessment including a mixture of foundational and representative species and species of high regional concern and begun species assessments. |
| **Assessing Priority Amphibian & Reptile Conservation Areas and Vulnerability to Climate Change in the North Atlantic Landscape Conservation Cooperative (LCC)**  *Priya Nanjappa, AFWA*  *Phillip deMaynadier, Maine DIFW*  *Cindy Loftin, Maine Coop F&W U.*  *Kyle Barrett, Clemson University* | Amphibians and reptiles are experiencing threats throughout North America due to habitat loss and other factors. To help conserve these species, this project will identify Priority Amphibian and Reptile Conservation Areas (PARCAs) that are most vital in sustaining amphibian and reptile populations, taking into account potential future climatic conditions. |
| **Permeable Landscapes for Species of Greatest Conservation Need**  *Mark Anderson, TNC* | Landscape permeability is the ability of a heterogeneous land area to provide for passage of animals, equivalent to what some authors call “habitat connectivity.”  In this project we will evaluate and map the relative landscape permeability across a region of thirteen states, and determine how permeability coincides with the locations and habitat of species of greatest conservation concern. |
| **Demonstration project - Integrating Science into Policy - Local Adaptation for Marsh Migration in Maine**  *Steve Walker, Maine Coast Heritage Trust* | One of three projects underway to show the application of science tools developed through the LCC and RCN program. Coastal marshes serve a variety of important functions including flood control, spawning/rearing areas for marine life, and critical habitat for many bird species of conservation concern. The focus of this project is to facilitate local actions in Maine to accommodate the needs of coastal marshes to migrate landward in response to rising sea levels. |
| **Landscape Conservation Design and Synthesis for State Wildlife Action Plan Updates**  *Steve Fuller, North Atlantic LCC* | Compilation, organization, synthesis, science translation and adoption for completed, ongoing and future projects including:  1) immediate organization of existing data to make information more available; 2)synthesis of existing data to develop/compile landscape designs that will allow partners to map and prioritize focus areas for conservation; 3) translation of maps and other tools to make landscape design data useful at various scales and in various formats; and 4) assistance to ensure that science and tools are understood and consistently adopted and implemented in support of on-the-ground conservation. GIS Analysts in the LCC and TNC are working with LCC staff, state and other partners. Initial focus on synthesizing information for the State Wildlife Action Plan Updates. |