

March 14, 2014

Performance Report for the period July 1, 2013 to December 31, 2013

Project Title

Assessment of Landscape Changes in the North Atlantic Landscape Conservation Cooperative: Decision-Support Tools for Conservation (**Phase 2**)

Project Sponsor: US Fish and Wildlife Service, Region 5

Principal Investigator:

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Project Scope and Objectives

The specific objectives of this scope of work are as follows:

1. Extend the geographic scope of the LCAD model developed in phase 1 to the extent of the USFWS/NEAFWA Northeast Region (13 states + D.C.).
2. Develop climate-habitat capability models for an additional suite of representative species.
3. Develop the landscape design and decision-support portion of the LCAD model; specifically, to prioritize conservation actions for land protection, management and restoration.
4. Modify the succession model to incorporate spatial variability within ecological systems and multivariate trajectories in vegetation growth.

Accomplishments

In our ongoing efforts to meet the above objectives, we accomplished the following tasks during this work period:

- 1) Completed the development of all of the relevant GIS data needed for the for the landscape change and assessment model (LCAD) for the entire Northeast region.
- 2) Improved our computing software to accommodate running the LCAD model on our computer cluster.
- 3) Developed habitat capability models for an additional 10 representative species.
- 4) Developed a framework for modeling landscape capability for representative species that integrates climate niche, habitat capability and prevalence into a single modeling framework.
- 5) Updated documentation of the overall modeling framework, ecological systems, climate downscaling, disturbance and succession process, species models, and ecological integrity model.
- 6) Developed a new climate alteration stressor metric approach for inclusion in the ecological integrity assessment.