NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2015 PROGRESS REPORT

Quarter: (circle one)   2015 1ˢᵗ   （2015 2ⁿᵈ）   2015 3ʳᵈ   2015 4ᵗʰ

Grant Program, Number and Title:

Priority Science Grant Program, NALCC 2013-03

Conserving Important Habitat for Amphibians and Other Wildlife: Compilation of Vernal Pool Mapping Efforts across the North Atlantic Region.

Organization: Vermont Center for Ecostudies

Project Leader: Steve Faccio

Abstract: Please provide a short (1-2 paragraphs) abstract that addresses EACH of the following: the objectives of your project, accomplishments to date, future plans and timelines with an estimate for when the project will be completed.

This project has four primary objectives: 1) compile a comprehensive database of vernal pool locations; 2) describe the vernal pool mapping and verification approaches currently being employed in the region; 3) develop a remote sensing method using LiDAR to efficiently identify potential vernal pool locations; and 4) prioritize areas for future vernal pool mapping.

During the last quarter we continued to archive vernal pool location data into the Access database, which now consists of 42,270 records. We sub-contracted with Michael Hayslett, a consulting herpetologist and vernal pool ecologist, and his assistant Seth Dorman, to digitize vernal pool locations from across Virginia that he had recorded during 20 years of field work, resulting in a data submission of over 500 pool locations. At this writing, data have been received from four cooperators in three states (VT, MA, and VA), while three others with significant vernal pool data sets (ME DIFW, Harris Center for Conservation Education, and NJ DFW) have indicated their intent to submit data.

We also organized and led a day of field-verification of LiDAR-modeled potential vernal pools in Addison County Vermont. Three teams of two individuals each, including a VT DEC wetlands ecologist and a herpetologist from Green Mountain College, visited more than twenty potential pools on Green Mountain National Forest in the towns of Ripton and Goshen, VT. Although there were a high proportion of false-positives among the sites visited, the field work proved to be valuable in providing insights that will help refine the LiDAR model to better distinguish between vernal pools and headwater seeps.

Future plans include additional LiDAR model refinement incorporating feedback received during ground-truthing. We will also continue to archive vernal pool location data into the database as they are received from cooperators.

Were planned goals/objectives achieved last quarter?

Yes (see planned and accomplished goals/objectives in matrix below).

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)

Goal/Objective	Planned	Accomplished by 31 Dec.
Goal 1 - Compile a comprehensive dataset of vernal pool locations in the NALCC region, including potential and verified pools.		
Assemble project steering committee and hold first conference call	X	X
Plan and host regional workshop at NE Natural History Conference	X	X
Present oral paper at NEAFWA Conference	X	X
Build database to archive geospatial and associated attribute data	X	X
Build a metadata library	X	X
Host workshop at NEPARC meeting (western NY)	X	X
Receive and archive data into database; proof and complete metadata	X	ongoing
Host regional workshop in mid-Atlantic region	X	X
Provide vernal pool data to NALCC	X	
Goal 2 – Compile and describe the various mapping and certification approaches currently being employed in the region		
Identify and review all coordinated mapping projects	X	ongoing
Prepare review document	X	
Goal 3 – Develop a method to identify potential vernal pools using Light Detection and Ranging (LiDAR) technology and object-based image analysis (OBIA)		
Compile vernal pool and LiDAR data for NJ and VT	X	X
Conduct preprocessing of LiDAR and other (NHD) data and imagery	X	X
Define characteristics of vernal pools in LiDAR	X	X
Prototype OBIA expert system	X	X
OBIA system development	X	ongoing
Evaluation and Accuracy Assessment	X	ongoing
Reporting	X	

Difficulties Encountered:
NA

Activities Anticipated Next Quarter:

1. Additional LiDAR model refinement incorporating feedback received during ground-truthing;
2. Continue to archive vernal pool location data/metadata into the database as they are received from cooperators.
3. Begin Review document describing the various mapping and certification approaches in the region.

Expected End Date:

December 2015

<u>Costs</u>:

Total life to date expenses (include this quarter): $65,074.11

Total Approved Budgeted Funds: $100,000

Are you within the approved budget plan and categories? Yes.

Signature

Date: July 14, 2015