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 completed the Access database to archive vernal pool location data and requested vernal pool data from more than 80 potential cooperators. We also developed a metadata form for cooperators to complete detailing necessary information about the submitted datasets. To date, data has been received from two cooperators (VT and VA), while four others with significant vernal pool data sets (ME DIFW, MA DFW, Harris Center for Conservation Education, and NJ DFW) have indicated their intent to submit data.

We also hosted a webinar to present preliminary results from modeling work using high-resolution LiDAR and multispectral imagery in conjunction with object-based imagery analysis to identify the location of potential vernal pools. Approximately 15 people attended the webinar, including several steering committee members, and ecologists and GIS professionals from academia and various state and federal agencies. Several attendees participated in a discussion following the webinar, providing valuable feedback on the modeling work, future model refinement, and plans for ground-truthing and model validation.

Future plans include additional LiDAR model refinement incorporating feedback received during the webinar, as well as limited ground-truthing of modeling output of potential vernal pools located on public lands. 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	
Reporting	X	

Difficulties Encountered:
NA

Activities Anticipated Next Quarter:

1. Additional LiDAR model refinement incorporating feedback received during the webinar.as well as limited;
2. Limited ground-truthing on public lands of LiDAR modeling output of potential vernal pools;
3. Continue to archive vernal pool location data/metadata into the database as they are received from cooperators.

Expected End Date:

December 2015

Costs:

Total life to date expenses (include this quarter): $60,916.38

Total Approved Budgeted Funds: $100,000

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

Signature 

Date: April 14, 2015