

NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2015 PROGRESS REPORT

Quarter: 1st, due 30th July 2015

Award Number and Title: F14AC00965 “Tidal wetlands after Hurricane Sandy: baseline restoration assessment and future conservation planning (part of Decision support for Hurricane Sandy restoration and future conservation to increase resiliency of tidal wetland habitats and species in the face of storms and sea level rise, DOI# 24)”

Organization: University of Connecticut, University of Maine, University of Delaware, SUNY-ESF

Project Leader: Chris Elphick (co-investigators: Brian Olsen, Greg Shriver, Jonathan Cohen)

Abstract: This project is using the Saltmarsh Habitat and Avian Research Program’s (SHARP) platform to assess the efficacy of restoration activities and to provide planning guidance to enhance the future resiliency of natural coastal assets. Specifically, SHARP will: (1) Collect baseline data in 2015-16 to enable quantification of the efficacy of Hurricane Sandy restoration projects using a standardized set of protocols that allow both integration with similar work already planned for many NWRs and comparison with the larger regional SHARP data set (a network of >1500 locations sampled annually in 2011-14). (2) Collect detailed, high resolution, marsh elevation data in association with the existing sampling network and at new study sites associated with restoration evaluation. (3) Generate a detailed, ground-truthed vegetation map for tidal marshes throughout the region in order to facilitate both the evaluation of restoration work and future resiliency planning. And, (4) integrate SHARP’s work with that of other LCC and Hurricane Sandy resiliency partners in order to conduct coordinated regional conservation planning.

Were planned goals/objectives achieved last quarter? Yes

Number of veterans and youth (17-25) employed as a result of this agreement: 0 and 5, respectively

Progress Achieved:

Task A: Collect baseline data in 2015-16 to enable quantification of the efficacy of Hurricane Sandy restoration projects using a standardized set of protocols that allow both integration with similar work already planned for many National Wildlife Refuges and comparison with their larger regional data set (a network of >1500 locations sampled annually in 2011-14).

- Contacted project leaders for Sandy-funded restoration activities and identified sites where marsh restoration is occurring and surveys can be conducted. This includes initial contact with 20 Sandy-funded tidal marsh restoration sites. To date, we are monitoring restoration projects at nine NFWF-funded sites and three additional restoration sites (i.e., state or private

partnerships in CT and NJ) in addition to our ongoing survey assessments of marsh restoration efforts on federal lands with existing USFWS partners. All restoration sites are paired with nearby control sites.

- 2015 baseline data collection is almost complete (>90%), with data collected at 239 new restoration and control points to complement >700 points associated with refuge restoration projects.

Task B: Collect detailed, high resolution, marsh elevation data in association with the existing sampling network and at new study sites associated with restoration evaluation.

- High resolution elevation data using Real Time Kinematic (RTK) GPS technology is >60% complete. We hired 4 field technicians who have sampled 474 survey points to date, distributed across the entire geographic extent of the SHARP study range (from ME to VA).
- At each RTK location, we are also obtaining 2-6 polygon (>5 x 5 m) delineations of tidal marsh habitats, according to four broad marsh categories. This information will be used to improve models of marsh habitat using remote sensing.

Task C: Generate a detailed, ground-truthed vegetation map for tidal marshes throughout the region in order to facilitate both the evaluation of restoration work and future resiliency planning.

- Work towards the creation of a comprehensive high/low marsh community layer is well underway. Field collection of training and evaluation data in marshes between Maine and Virginia started in May; over 500 patches of marsh have been delineated to date.
- We have almost completed the hiring process for a GIS analyst who will start 1 Sept 2015.

Task D: Integrate their work with that of other LCC partners in order to improve regional conservation planning.

- We have hired a post-doctoral researcher to work on conservation planning.
- PI and postdoc participated in symposium on Hurricane Sandy research at the Society for Wetland Scientists' 2015 international meeting (PI presented). PI also attended Atlantic Coast Joint Venture workshop to saltmarsh conservation.
- Various partners have offered datasets to augment existing SHARP data for conservation planning and postdoc has begun process of integrating data sets into a common format.
- SHARP team has worked closely with USFWS staff to make survey vegetation data available online, and is developing an online database and data entry portal to make SHARP bird data more accessible.
- Participated in numerous conference calls and email exchanges to discuss ways in which our data collection could be integrated with that of others both to avoid redundancy and to increase opportunities for data sharing (especially with regard RTK elevation data).

Difficulties Encountered: None.

Activities Anticipated Next Quarter:

- Complete 2015 surveys and elevation data collection.
- Enter and proof 2015 data.

- GIS analyst will begin classification across unsurveyed space this fall, and supervise a work study student at the University of Maine to delineate discrete water features and impervious surfaces within the National Wetland Inventory course tidal marsh delineation.
- Compile all data sets for conservation planning exercises.

Expected End Date: October 31, 2016

Costs

Total expenses this quarter: \$49,362.43 (\$44,419.60 direct)

Total life to date expenses (including this quarter): \$50,499.44 (\$45,387.27 direct)

Total Approved Budgeted Funds: \$820,000 (\$787,439 direct costs)

Are you within the approved budget plan and categories: Yes

Signature:

A handwritten signature in purple ink, appearing to read "Charles E. King".

Date: 27 July 2015