

# NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one)

2012 1<sup>st</sup>

2012 2<sup>nd</sup>

2012 3<sup>rd</sup>

2012 4<sup>th</sup>

Grant Number and Title: NALCC 2011 (11) Mapping Marine Birds NW Atlantic: Phase 1

Grant Receipt/Organization: NCSU

Grant Project Leader: Gardner

Were planned goals/objectives achieved last quarter? Yes

NALCC Conservation Need Addressed:

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

1. Develop models for estimation of sea bird distributions, particularly in regards to potential areas of aggregation  
Planned Goal for this fall – build initial models of sea bird distributions  
Accomplished – we have developed spatio-temporal models of sea bird distributions in a restricted area (Nantucket Sound). We have collected the necessary covariates and formatted the data for these models. Currently we are debugging the model in relation to issues of convergence and are implementing the models using a different software package. We hope to extend these models to a larger area in the near future.
2. Determine statistically appropriate models for assessing risk  
-No progress has been made towards this goal directly.  
-We have discussed different approaches but have not settled on one yet.  
-Planned Goal for next year is to build a modeling framework to assess risk (first by defining what the risk is – species richness, species abundance, etc.)

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)

We have formatted the data necessary to conduct analyses, including covariate information such as bathymetry, SST, and chlorophyll-a. After this was finished, we began a process of examining the data and selected Nantucket Sound for some initial model development and testing. The modeling approaches we have examined so far include spatio-temporal conditional auto-regressive models within a Bayesian framework. Our initial findings indicated a very large spatial effect on the distribution of selected species (e.g., Common Eider). Unfortunately, we faced some issues with convergence and goodness of fit, but we have been working to diagnose potential errors and are currently expanding our model exploration to a larger area of the east coast. Determining the best method for assessing risk will not be considered until sometime later this year. The project is currently on track to finish by Dec. 2013 as originally stated.

Difficulties Encountered:

- What is the best spatial resolution at which to analyze the data?
- As mentioned above, we have faced some issues with convergence in our CAR models.

Activities Anticipated Next Quarter:

- Determine the spatial model that we wish to move forward with
- Make predictive maps for some species

Expected End Date: 12/31/2013

Costs:

Funds Expended to Previous to this Report: 6,757.13

Amount of NALCC Funds Requested within this Report: 19593.83

Total Approved Budgeted NALCC Funds: 115,000.00

Are you within the approved budget plan? yes

Are you within approved budget categories? yes

Signature:

Date:

# NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one)

2012 1<sup>st</sup>

2012 2<sup>nd</sup>

2012 3<sup>rd</sup>

2012 4<sup>th</sup>

Grant Program, Number and Title: Sub-award Number 2011-13: MAPPING THE DISTRIBUTION, ABUNDANCE AND RISK ASSESSMENT OF MARINE BIRDS IN THE NORTHWEST ATLANTIC: PHASE 1: SUBPROJECT – SEABIRD PREDICTIVE MONITORING INTEGRATION

Organization: CONSOLIDATED SAFETY SERVICES, INC.

Project Leader: Brian Kinlan, Ph.D.

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.

The goal of this project is to develop an improved framework for marine bird risk assessment in the U.S. North Atlantic that integrates long-term spatial patterns in seabird aggregation with short-term variability in distribution, behavior, and ecology. This sub-award supports a small amount of Dr. Kinlan's time and his travel expenses to participate in workshops, coordinate with other sub-award PIs, and make his predictive modeling results for the New York Bight and Mid-Atlantic available for analyses by the larger group.

Following initial discussions among sub-award PI's via email and phone in the 2<sup>nd</sup> quarter of 2012, sub-award PI's Brian Kinlan and Beth Gardner (NC State) met in Silver Spring on July 24. They discussed recent seabird modeling results and approaches and made plans for coordinated work once the NC State Postdoc is hired this Fall. These discussions from the 3<sup>rd</sup> quarter of 2012 continued throughout the 4<sup>th</sup> quarter of 2012. December 21, 2012, a day was spent on data analysis and processing and project-related communication. In the future, these communications and analyses will continue, face-to-face meetings and workshops will be scheduled, and Kinlan will provide modeling results to other sub-award PI's as requested. Travel is planned in the 1<sup>st</sup> quarter of 2013 to attend and present project-related results at a special session on Marine Spatial Planning being convened at the Pacific Seabird Group's Annual Meeting in Portland, OR Feb 19-24, 2013. Four days of the PI's time and travel expenses will be billed for this purpose. This project is expected to be completed by December 31, 2013.

Were planned goals/objectives achieved last quarter?

YES

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

This project has one deliverable: "Participation in project-related meetings, workshops, phone calls, and email communication". This goal was met this quarter through Kinlan's participation in email and phone conversations with other sub-award PI's and project-related data analyses and communications on December 21, 2012.

Difficulties Encountered:

NONE

Activities Anticipated Next Quarter: Project-related communications and analyses will continue, face-to-face meetings and workshops will be scheduled, and Kinlan will provide modeling results to other sub-award PI's as requested. Travel is planned in the 1<sup>st</sup> quarter of 2013 to attend and present project-related results at a special session on Marine Spatial Planning being convened at the Pacific Seabird Group's Annual Meeting in Portland, OR Feb 19-24, 2013. Four days of the PI's time and travel expenses will be billed for this purpose.

Expected End Date: December 31, 2013

Costs:

Total life to date expenses (include this quarter): \$1,872.00

Total Approved Budgeted Funds: \$10,000.00

Are you within the approved budget plan and categories? YES

Signature:

A handwritten signature in black ink, appearing to read "Brian P. Kinlan". The signature is written in a cursive style with a long horizontal flourish at the end.

Date: 1/31/2013

# NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT 2012 PROGRESS REPORT

Quarter: (circle one)

2012 1<sup>st</sup>

2012 2<sup>nd</sup>

2012 3<sup>rd</sup>

2012 4<sup>th</sup>

Grant Number and Title: 2011-14 Best Darn Bird Map

Grant Receipt/Organization: Biodiversity Research Institute

Grant Project Leader: Andrew Gilbert

Were planned goals/objectives achieved last quarter? No. Little work has been accomplished thus far.

NALCC Conservation Need Addressed: The Best Darn Bird Map project will pull together existing information on marine bird distribution and abundance, including modeled distributions, vessel and aerial survey information, and data from individually marked birds, and create mapping products useful for planning uses of the marine environment, including sighting alternative energy projects.

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

1. Consult with project PI and USGS to produce model data appropriate for BDBM.

Actual - We reached out to project PI to discuss the project, but have not received guidance. We are awaiting further guidance.

2. Deliver seabird model input for BDBM

Actual – NOT STARTED

Summary of Progress: (Provide a paragraph describing progress, work to come, and timelines)

We reached out to project PI to discuss the project, but have not yet heard back. We have been working with USGS to get new seabird data added to the Atlantic Seabird Compendium Database. We have more datasets to work with USGS on and will reach out again to modelers to start determining the way that they need data to be processed for their work.

The majority of our assistance should be completed by summer, but it is unknown how far along the project coordinators are in this project and their needs.

Difficulties Encountered:

We have had difficulty with project communication and understanding how best to be effective in this project since we are largely playing a supporting role and no guidance has been given.

Activities Anticipated Next Quarter:

Continue to process and upload new data and work with modelers to get them data as needed.

Expected End Date: Summer 2013

Costs:

Funds Expended to Previous to this Report: \$885.13

Amount of NALCC Funds Requested within this Report: \$288.38

Total Approved Budgeted NALCC Funds: \$9967

Are you within the approved budget plan? Yes

Are you within approved budget categories? Yes

Signature: 

Andrew Gilbert, Data Management Director, BRI

Date: 02/25/2013