



Nova Scotia Habitat Conservation Fund

Final report for project 13-12: “Incorporating newly enhanced maps and data analyses into final Breeding Bird Atlas products for Nova Scotia”

*Project Background and Results Summary:* This project was undertaken to incorporate the new data analyses and more detailed maps of breeding bird distribution, abundance, and 20 year changes in these factors, into the final Maritimes Breeding Bird Atlas products for Nova Scotia. Last year (2012-13), the techniques for modelling species abundance and probability were developed and agreed upon but had yet to be put into practice. In 2013-14, we have made significant progress by completing the new analyses, which were extensive but well worth it; they now enable an understanding of changes in species-habitat associations, species distribution and abundance over time. Data analyses and all associated graphics and presentation of results were completed in 2013-2014; interactive (“clickable”) species and effort maps for both 1<sup>st</sup> and 2<sup>nd</sup> atlases have been added to the website; and significant progress has been made in finalizing the writing, editing, layout, design, and translation of the Maritimes Breeding Bird Atlas.

*Atlas Objectives Reached in 2013-2014:*

<b>Task:</b>	<b>Results:</b>
<p>Incorporate results of new data analyses and maps into final text for the English version of the book</p>	<p>New data analysis and maps complete. Relative abundance predictive model finalized incorporating elevation, longitude, latitude and probability of observation. Relative abundance maps produced and finalized for 76 species (for all species detected on a minimum of one hundred point counts and that were not otherwise excluded, eg. waterfowl). Probability of observation model finalized, also incorporating elevation, longitude and latitude; and probability of observation maps for the first and second atlas as well as change in probability observation produced for 163 species.</p>

<p>Finalize graphics, figures and tables for the book and website, using results of revised analyses. Finalize photographs. Finalize maps for the book and website, including revised and re-formatted maps of relative abundance and updated maps of changes in abundance and distribution.</p>	<p>Data analyses, graphics, figures, and tables for the book and website are finalized using results of the revised analyses. Interactive species and effort maps allowing comparisons between 1<sup>st</sup> and 2<sup>nd</sup> atlas have been added to website (Figure 1).</p>
<p>Finalize layout and design, and editing (copy, style and scientific editing) of the final text, figures, graphics and maps for the English version of the book.</p>	<p>Results of new data analyses and maps are incorporated into final text for the English version of the book.  Draft layouts of species accounts and covers (including photographs) complete. Final elements to be decided on shortly.  All seven chapters, as well as acknowledgements and appendices (back and front materials) and 7 text boxes (additional essays and materials) complete. Five chapters as well as the acknowledgements have undergone a first round of copy editing and are ready for a second round. Remaining materials are ready for copy-editing</p>
<p>Translation of the English version of the book into French; Scientific review of French translation.</p>	<p>All 222 species accounts by Maritime authors completed, reviewed, and copy-edited. They are undergoing translation by Normand David with a deadline of July 31 2014.</p>
<p>Scientific review of French translation; French copy editing.</p>	<p>Not complete.</p>
<p>Layout and design of the Maritimes Breeding Birds Atlas French book.</p>	<p>Not complete.</p>
<p>Printing, marketing, promotion, launch and distribution of French and English version of the book (occurs simultaneously for French and English versions).</p>	<p>Not complete.</p>
<p>Incorporate results of new data analyses and maps into final content for website, adapting web content from book content. Finalize interactive tools for the Atlas website to display re-formatted maps and to make results of revised data analyses available on line (final database, text, maps, figures and graphics). Launch re-vamped MBBA website</p>	<p>Ongoing (see above).</p>

2) *Project Budget*

Funds from NSHCF were used to support Human Resources on this project, as follows:

<b>Expense Category</b>	<b>Description</b>	<b>Funds Received NSHCF</b>	<b>Other Cash\$</b>	<b>Total</b>
Human Resources	Kate Bredin (Atlas Coordinator)		3752.17	3752.17
	Andrew Couturier (GIS/Mapping Specialist)		13501.08	13501.08
	Denis Lepage (GIS/Mapping Specialist, Database Manager)		7190.94	7190.94
	Becky Stewart (Program Manager)	\$8,000	\$322	8321.85
<i>Total Human Resources</i>		<b>\$8,000</b>	<b>\$24,766</b>	<b>\$32,766</b>

Figure 1. Example of new data and species map available online (<http://www.mba-aom.ca>) in (A) English and (B) French. When “clicked”, interactive maps display species lists in each surveyed square (see arrow). Maps also toggle easily online between data from the first and second atlas, immediately illustrating changes in species distribution across years.

