

**FEDERAL AID  
FINAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 115526  
Juneau, AK 99811-5526

**Alaska Department of Fish and Game  
State Wildlife Grant**

**Grant Number:** T-23-R-1

**Segment Number:** 3

**Project Number:** 1.0

**Project Title:** Identifying, Prioritizing, and Conserving Important Bird Areas in Alaska

**Project Duration:** July 1, 2011 – June 30, 2014

**Report Period:** July 1, 2013 – June 30, 2014

**Report Due Date:** September 1, 2014

**Principle Investigator:** Melanie Smith

**Project Location:** Statewide

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**I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH**

Given the size of Alaska and the relative paucity of bird abundance data from large parts of the state, there is a need for more complete identification of Important Bird Areas (IBAs), as well as development of an overarching conservation strategy for the most significant IBAs in Alaska. Any effective strategy, however, must be tied to the specific populations, threats, and vulnerabilities in each area. Where are those sites and habitats? What bird species congregate there, in what numbers, and for what purpose? We already have some information, especially for species that nest in colonies or aggregate in high densities on staging sites. But sometimes even data for these sites are fragmentary or anecdotal. Furthermore, vast areas of the state's interior are poorly surveyed and unrepresented on existing maps.

**II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED**

The Biodiversity Program supports two other partner projects that can assist Audubon's proposed work. The first is the Avian Knowledge Network (AKN) (Marshall et al. 2008), with a node established by the Alaska Natural Heritage Program (AKNHP). This node serves as a portal to AKN for avian data from agencies, institutions, and organizations statewide. In this project, we expect to both draw from, and contribute to, the AKN database for Alaska.

The state and other agencies/Universities are also partners in Alaska GAP (Gotthardt and Fields 2008). GAP has accumulated over 1 million occurrence records on the vertebrate taxa in Alaska, including location and some abundance data on for hundreds of bird species (Gotthardt et al. 2009, and personal communication). From these data, the GAP principle investigators and other experts will develop inductive and deductive models to predict detailed distribution maps

(Gotthardt et al. 2009). These models, and the original distribution and abundance data, will be useful for Audubon's purpose of identifying IBAs. The maps from GAP will also be used to help prioritize needed conservation action among the numerous IBAs within the state based on species richness, and presence/absence of rare or vulnerable species.

We see this proposed IBA project as a valuable opportunity to build upon work currently being conducted and to produce a different product for conservation purposes. Such coordination will result in more meaningful conservation accomplishments across Alaska.

### **III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED**

With this project we will refine existing Important Bird Areas (IBAs) using updated survey data and new GIS tools; we will identify new IBAs in Alaska with a particular emphasis on the under-represented interior area of the state; we will undertake an objective assessment of all IBAs in terms of bird abundance, diversity, conservation status, and threats; and we will develop conservation plans for the highest priority IBAs within each Bird Conservation Region (BCR).

### **IV. MANAGEMENT IMPLICATIONS**

IBAs encompass habitat for millions of birds in Alaska. The 145 current IBAs encompass 148,221,447 acres. This project will enhance public awareness and conservation of those resources.

### **V. SUMMARY OF WORK COMPLETED ON JOBS**

#### **Objectives:**

#### **I. Conserve Alaska's Birdlife**

##### **1. Identify Important Bird Areas (IBAs)**

##### **1.1) With partners, identify existing bird survey data sets of suitable quality.**

*Accomplishments:* We completed the step of acquiring and compiling coastal and terrestrial databases of waterfowl surveys, which were provided primarily by the US Fish and Wildlife Service. We also acquired additional datasets with the help of the Alaska Natural Heritage Program, including survey data collected by the University of Alaska Fairbanks, the Alaska Bird Observatory, the Forest Service, the National Park Service, the U.S. Geological Survey, and the Alaska Department of Fish and Game. This included data from aerial transects, lake, river, and coastline surveys, point counts, and road surveys, and supplements our previously collected waterfowl information with a rich dataset for raptors, shorebirds, and songbirds. In total, we now have over one million bird observation points identified to species that we used for identifying IBAs around the state. We consolidated disparate waterbird data into a common format, so that data could be analyzed together.

##### **1.2) Use GIS tools to create a map showing distribution of bird survey effort statewide.**

*Accomplishments:* We completed a set of maps and a public conference presentation that include the distribution of survey effort for waterbirds in terrestrial and coastal areas.

- 1.3) Use GIS tools to identify, delineate, and map IBAs statewide, and refine boundaries of existing IBAs, as needed. Develop an interactive, web-based map of IBAs.

*Accomplishments:* We completed and publicly released an interactive, web-based map of marine IBAs, which won a Story Maps award from GIS software developer ESRI. This map allows users to view photos and descriptions for hundreds of marine IBAs from Alaska to Mexico, and to identify IBAs by state, type, or species. We completed analysis of interior and coastal IBAs for waterbird species, in multiple seasons. We then integrated the new results with our existing IBAs. This included tasks such as combining overlapping marine and coastal IBAs, redefining boundaries for previously existing IBAs using the new GIS-based analysis, naming and describing new IBAs, and analyzing significance criteria for all IBAs at the state, continental, and global levels.

- 1.4) Submit nominated IBAs to BirdLife International or WHSRN for formal recognition. This will be coordinated with the Alaska Shorebird Group prior to making any submissions.

*Accomplishments:* The first step in nominating IBAs is review and approval by an Alaska State Technical Committee. The committee met in May and approved the new IBAs at the state level of significance. We then shared our results with National Audubon and are in the process of completing the final nomination for global status which was delayed at the national level.

## 2. Assess and Prioritize Important Bird Areas

- 2.1) Develop a scoring metric to capture the biological values, threats, and vulnerabilities of each IBA.

*Accomplishments:* This was completed in Year Two.

- 2.2) Describe priority IBAs by Bird Conservation Region (BCR), and by inland, coastal, and offshore domains.

*Accomplishments:* We prioritized IBAs using a scoring method that included priority level, status of current work in the IBA, whether the site was linked with a National Audubon strategic initiative, whether partners were working there, likelihood of making substantial progress toward conservation within a five-year time frame, threat level, and whether the site is used by WatchList species of concern. The resulting [spreadsheet](#) identified top IBAs for land and sea. Land IBAs were described in a [joint project with Pacific Coast Joint Venture](#) (PCJV). Marine IBAs were described in comments on federal planning process for the Outer Continental Shelf.

We did conservation planning in five BCRs (two were offshore instead of terrestrial) and covered all three domains (offshore, inner, coastal). Our top ten terrestrial IBAs in four BCRs addressed were:

- Arctic Plains and Mountains: Teshekpuk Lake, Colville River Delta (inner domain)

- Western Alaska: Izembek Lagoon, Nelson Lagoon, Nushagak Bay, Kvichak Bay (coastal domain)
- Northern Pacific Rainforest: Mendenhall Wetlands (coastal domain)
- Northwestern Interior Forest: Homer Spit, Clam Gulch, Kasilof River Flats (coastal domain)

Top IBAs in an additional offshore domain BCR (Chukchi and Beaufort Seas) are addressed in our extensive comments on the [OCS Five-year Plan for the Chukchi and Beaufort Seas](#). Based on this information, BirdLife International has recognized the Barrow Canyon & Smith Bay IBA as one of seven IBAs in danger in the United States.

### 3. Plan Conservation Actions

3.1) Write a conservation action plan for the highest priority IBA in each BCR, including at least 1 IBA from each domain.

*Accomplishments:* As outlined in 2.2 above, conservation plans were completed in a [joint project with PCJV](#), in our comments on the [OCS Five-year Plan for the Chukchi and Beaufort Seas](#), and through the BirdLife International [IBAs in Danger](#) initiative.

## VI. PUBLICATIONS

*Below is the complete list of presentations and publications that resulted from all three years of this project. Most are hyperlinked, or available at <https://www.dropbox.com/sh/cd21hvuvz3vge6v/AACSGFICalSk9yU5dXmFFIjIa?dl=0>.*

### **Reports:**

[Audubon Alaska. 2013. Conservation Planning for Alaska's Important Bird Areas. Audubon Alaska, Anchorage, AK.](#)

[Smith, M., N. Walker, C. Free, M. Kirchhoff, N. Warnock, A. Weinstein, T. Distler, and I. Stenhouse. 2012. Marine Important Bird Areas in Alaska: Identifying Globally Significant Sites Using Colony and At-sea Survey Data. Audubon Alaska, Anchorage, AK.](#)

### **Oral Presentation:**

[Smith, M., N. Walker, M. Kirchhoff, and C. Free. 2014. Mapping important areas for seabirds: how to draw the boundary line. In Society for Conservation and GIS Annual Conference. Monterey, CA.](#)

[Smith, M.A. and N.J. Walker, 2014. Identifying Important Bird Areas for waterfowl in terrestrial and coastal Alaska using aerial survey data. In Society for Conservation and GIS Annual Conference. Monterey, CA.](#)

[Smith, M., N. Walker, M. Kirchhoff, and C. Free. 2013. Mapping important areas for seabirds: how to draw the boundary line. In Pacific Seabird Group Annual Conference. Portland, OR.](#)

Smith, M., N. Walker, C. Free, M. Kirchhoff, N. Warnock, A. Weinstein, T. Distler, and I. Stenhouse. 2012. Marine Important Bird Areas in Alaska: Global sites for conservation. In 15th Alaska Bird Conference. Anchorage, AK.

Smith, M.A., N.J. Walker, C.M. Free, M.J. Kirchhoff, N. Warnock, I.J. Stenhouse. 2012. A standardized method for identifying marine Important Bird Areas using at-sea survey data. In Alaska Marine Science Symposium. Anchorage, AK.

Smith, M.A., N.J. Walker, C.M. Free, M.J. Kirchhoff, N. Warnock, I.J. Stenhouse. 2011. Identifying marine Important Bird Areas in Alaska: progress toward a standardized method. In Annual conference of Arctic AAAS (American Association for the Advancement of Science). Dillingham, AK.

Smith, M.A., M. Kirchhoff, and C. Free. 2010. Mapping important areas for seabirds: exploring solutions to common challenges. In 14th Alaska Bird Conference; Anchorage, AK.

**Poster Presentation:**

[Smith, M., N. Walker, C. Free, M. Kirchhoff, N. Warnock, and I. Stenhouse. 2013. Marine Important Bird Areas in Alaska. In Pacific Seabird Group Annual Conference. Portland, OR.](#)

[Smith, M., N. Walker, C. Free, M. Kirchhoff, N. Warnock, A. Weinstein, T. Distler, and I. Stenhouse. 2012. Marine Important Bird Areas in Alaska: global sites for conservation. In 15th Alaska Bird Conference. Anchorage, AK.](#)

**Peer-reviewed Journal:**

[Smith, M. A., N. J. Walker, C. M. Free, M. J. Kirchhoff, G. S. Drew, N. D. Warnock, and I. J. Stenhouse. 2014. Identifying marine important bird areas using at-sea survey data. \*Biological Conservation\* 172:180:189. \[For supplemental material click here.\]](#)

**Database:**

Walker, N. J., and M. A. Smith, 2014. Alaska Waterbird Database v1. Audubon Alaska, Anchorage, AK.

**Map:**

[Audubon Alaska. 2014. Important Bird Areas. Audubon Alaska, Anchorage, AK.](#)

[Audubon Alaska. 2014. Important Bird Areas of Alaska: Ecological Associations. Audubon Alaska, Anchorage, AK.](#)

**VII. ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE  
THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT  
PERIOD**

None

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