

**FEDERAL AID
ANNUAL 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-21

Segment Number: 1

Project Number: 7.0

Project Title: Coordinating the conservation of the rare Black Oystercatcher in Alaska

Project Duration: 16 April 2011 – 30 June 2015

Report Period: July 1, 2012 - June 30, 2014

Report Due Date: 30 September 2014

Principle Investigator: David Tessler, ADF&G

Project Location: Locations in Prince William Sound, Kenai Fjords, and other coastal locations throughout Alaska.

I. SUMMARY OF WORK COMPLETED ON JOBS FOR LAST SEGMENT PERIOD ONLY

***Objective 1:** Convene a symposium on recent and current research on the Black Oystercatcher to better understand the current state of knowledge and the extent to which priorities in the Plan have been addressed.*

***Job/Activity a.:** Plan and hold symposium and International Black Oystercatcher Working Group (IBOWG) meeting in association with an appropriate regional or international meeting sometime in 2013 or 2014. Arrange a one day or one half day session in the general meeting proceedings.*

***Job/Activity b.:** Solicit members of the IBOWG to present recent results of Black Oystercatcher projects and develop a schedule of presentations for the symposium.*

Accomplishments:

Objective 1:

Job/Activity a.:

No progress to report on this Job/Activity for this reporting period.

Job/Activity b.:

No progress to report on this Job/Activity for this reporting period.

***Objective 2:** Convene a meeting of the IBOWG (preferably immediately following the above symposium) to address the revision of the Plan to: 1) Assess how recent accomplishments relate to the previous priorities outlined in the Plan – what’s been done and what remains to be done; 2) identify any new emerging priorities; 3) develop a strategy for revising the Plan.*

***Job/Activity a.:** Hold a workshop with the IBOWG to assess recent accomplishments relative to revision of the plan;*

***Job/Activity b.:** Use the workshop to develop a strategy for revising the Plan;*

***Job/Activity c.:** Use the workshop to facilitate a working group discussion on coordinated, collaborative, range-wide monitoring; determine feasibility of coordinating efforts already underway.*

***Job/Activity d.:** At conclusion of symposium and workshop, hold business meeting to elect new officers and chairperson.*

Accomplishments:

Objective 2,

Job/Activity a-d:

No progress to report on this Job/Activity for this reporting period.

***Objective 3:** Conduct final surveys of banded populations in Harriman Fjord and Kenai Fjords to finalize demographic data set.*

***Job/Activity a.:** Conduct boat and foot based surveys of Harriman Fjord in Prince William Sound to resight any surviving birds banded from 2004-2007. This will involve three (3) two-day visits spaced throughout the breeding season at roughly three (3) week intervals from late May to mid-July.*

***Job/Activity b.:** Conduct boat and foot based surveys of Aialik Bay in Kenai Fjords National Park to resight any surviving birds banded from 2004-2007. This will involve three (3) two-day visits spaced throughout the breeding season at roughly three (3) week intervals from late May to mid-July.*

Accomplishments:

Objective 3: Job/Activity a.:

We conducted 4 surveys of Harriman Fjord and College Fjord in May and June 2014 to identify occupied territories, resight banded birds, and to recapture any previously banded birds whose color bands were missing. We found nearly all territories identified in previous years of this research (2004-present) were occupied. However, only 3 banded birds were resighted, one of which was banded in 2012 the other two were banded in 2007. No birds banded 2004-2006 were present.

The results of these surveys will be shared with Chugach National Forest and incorporated into their ongoing survey oystercatcher efforts for Prince William Sound. We are also coordinating with the Southwest Alaska Network (SWAN) of the National Park Service to integrate all of these survey efforts into a regional picture of the status of the species in the heart of its range.

Objective 3: Job/Activity b.:

We had planned to begin survey activities in May. However vessel scheduling conflicts prompted us to coordinate these surveys with NPS partners. A graduate student on an NPS project we are advising surveyed Aialik throughout the summer and recorded data on all previously mapped territories and on all banded birds observed. Several banded birds were observed, including 6 banded in 2012. One bird banded between 2003 and 2005 was observed. We plan to conduct the full set of survey and capture visits in summer 2015 to identify occupied territories, resight banded birds, and to recapture any previously banded birds whose color bands were missing.

Objective 4: *Complete final analyses of outstanding Black Oystercatcher data sets;*

Job/Activity a.: *Finalize analyses of demography data from strategic banding effort;*

Job/Activity b.: *Finalize analyses of comparative productivity data and its variance between years and sites;*

Job/Activity c.: *Finalize analyses of causes of nest, egg, and chick loss across sites and its variance between years and sites;*

Job/Activity d.: *Finalize analyses of genetic material using mitochondrial and nuclear DNA microsatellite techniques;*

Job/Activity e.: *Finalize analyses of data on capture methods and their relative success;*

Accomplishments:

Objective 4, Job/Activity a-e:

Reviews of a previously submitted manuscript on the population genetics of Black Oystercatchers pointed to some weaknesses in the draft and some possibilities for strengthening the overall research. One of the main suggestions was that it would be ideal to incorporate samples from additional sites in the analyses, particularly from the distal portions of the species' range.

We met with partners at USGS Molecular Ecology Lab and USFWS, and identified a pathway to move forward, initiate new analyses and incorporate the results from all sites. The work will require including samples from previously unanalyzed locales as well as the development of some additional microsatellite loci.

We identified a large number of genetic samples that we have on hand from areas that were not considered in our original analyses and manuscript on the subject. We have "new" samples from Kodiak, Juneau, Vancouver Island (Pacific Rim National Park), which can be added to the analyses of oystercatcher population structure which originally considered only Prince William Sound, Kenai Fjords, Middleton Island, Glacier Bay, and Queen Charlotte Islands.

In addition, we met with staff from the Alaska Maritime National Wildlife Refuge (AMNWR), the California Coastal National Monument (CCNM - BLM) and California Audubon about collecting some additional samples to represent the extreme ends of the species range. We identified that egg shell membranes would be an ideal source for additional genetic material from new sites in Alaska and California, being relatively easy to collect without requiring specialized knowledge on the capture of birds, and would not require additional permitting. In the end we determined to include Aiktak Island in the AMNWR, and breeding sites along the California

Coast in Mendocino County and Monterey County in conjunction with the CCNM and California Audubon.

We also determined to include productivity monitoring at these additional sites to be added to the existing data sets we have for Alaska and British Columbia to enable a range-wide synthetic analyses of productivity.

We developed productivity monitoring protocols and genetic sampling protocols and shared those with our new partners in April 2014. Productivity monitoring and genetic sample collection were initiated at these sites in May 2014 and will continue through Summer 2015. Productivity was monitored at 23 breeding territories in California and genetic samples were collected from 10 distinct territories, while at Aiktak Island 25 territories were monitored, and samples collected from nine of the 10 accessible territories.

The inclusion of genetic samples from the Aleutians, California, Kodiak, Juneau, and Vancouver Island (and perhaps the Georgia Straits as well) will provide an opportunity to examine the population structuring of the species throughout its range in a way that was not possible before. We expect that we will use both nuclear and single-stranded, maternally inherited mitochondrial DNA. This will provide a very robust picture of the genetic structuring of this species – and by a process that reflects the major recommendations for future research referred to in reviews of our original manuscript.

Also, the addition of two years of comparable productivity data from the outer ends of the species range will strengthen our analyses of the demographic parameters regulating the species throughout its range.

Objective 5: *Disseminate findings of final analyses of the data sets in Objective 4*

Job/Activity a.: *Develop technical reports for sharing with various agencies that partnered in the projects;*

Job/Activity b.: *Develop manuscripts for publication in peer-reviewed journals where appropriate;*

Job/Activity c.: *Present findings of analyses of the data sets in Objective 4 at appropriate local and national professional meetings and conferences;*

Accomplishments:

Objective 5, Job/Activity a-c: No progress was made on these activities in this reporting period.

II. PUBLICATIONS

Tessler, D.F., J.A. Johnson, B.A. Andres, S. Thomas, & R.B. Lanctot. 2014. A global assessment of the conservation status of the Black Oystercatcher *Haematopus bachmani*. *International Wader Studies* 20: 83–96.

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

IV. RECOMMENDATIONS FOR THIS PROJECT

Prepared by: David Tessler, ADF&G

Date: September 30, 2014