Environmental Studies Program: Ongoing Studies

Study Area(s): Beaufort Sea, Chukchi Sea

Administered By: Alaska OCS Region

Title: Migration Trends for King and Common Eiders and Yellow-billed Loons past Point Barrow in a Rapidly Changing Environment (AK-13-03-14)

BOEM Information Need(s) to be Addressed: This study will provide information to inform decision-making about the management of eiders and loons, including assessing conservation priorities such as potential impacts from climate change, increased shipping, and OCS oil and gas exploration and development in the Beaufort Sea and Chukchi Sea. BOEM analysts and decision-makers can use this information in NEPA analysis and documentation for potential future lease sales, EPs and DPPs.

Total BOEM Cost: $62,977
plus Joint Funding ($62,977)

Period of Performance: FY 2016-2018

Conducting Organization: CMI, UAF

Principal Investigator(s): Dr. Abby Powell

BOEM Contact: Rick Raymond

Description:
Background: Most of the king (*Somateria spectabilis*) and common eiders (*S. mollissima v-nigra*) and yellowbilled loons (*Gavia adamsii*) nesting in northern Alaska and northwestern Canada migrate twice annually past Point Barrow, Alaska during their northward spring migration and their southward fall migration. In 1996, spring and fall counts indicated both eider species experienced population declines of approximately 50% between 1976 and 1996. The counts were repeated in 2002-2004, at which time it appeared that since 1996 the number of common eiders passing Point Barrow had increased, but only slightly, and that the number of king eiders had remained stable but had not returned to the 1970s levels. Loon species were also counted in the surveys in 2002-2004, but data have not been analyzed.

The North Slope Borough (NSB) and the Wildlife Conservation Society (WCS) successfully completed a spring count of these species in 2015. This project will repeat the spring migration count in 2016 to obtain estimates of king and common eider populations to be analyzed with the current 2015 count. These data can be compared with those from the 1970s, 1996 and the early 2000s to evaluate long-term and current trends, evaluate observer error through photographic and radar techniques, and obtain estimates of yellow-billed loon populations that can be compared to the previous counts. These data will support assessment of conservation needs of these species, both now and in the future.

Objectives:

- Obtain estimates of king and common eiders passing by Point Barrow in spring 2016 and compare with counts from 1996, the early 2000s, and spring 2015.
- Evaluate observer bias through photographic and radar techniques.
- Obtain estimates of yellow-billed loons passing by Point Barrow in spring and fall 2016 and compare with counts from 1996 and the early 2000s.

Methods: Spring counts will be accomplished from an observation site on the shore-fast sea ice approximately 10 km southwest of Point Barrow. Counts will be conducted from approximately 20 April to early June from the same general location as previous year counts. Sex, species, and age-ratio will be determined both visually by ground-based observers and by photographic sampling using a high-resolution camera with 400-mm telephoto lens. For each flock sighted, time, direction of travel, species composition, and number sighted, ratio of males to females will be recorded. Data analysis will be consistent with that used for previous counts in order to compare results with earlier estimates. Study results will be shared through presentations, reports and peer-reviewed publications.

Current Status: Completed

Final Report Due: October 2018

Publications Completed:

Powell, A., R. Bentzen and R. Suydam. 2018. Migration Trends for King and Common Eiders and Yellow-billed Loons past Point Barrow in a Rapidly Changing Environment. Final Report, OCS Study BOEM 2018-059, University of Alaska Coastal Marine Institute and USDOI, BOEM Alaska OCS Region

Affiliated WWW Sites: http://www.boem.gov/akstudies/
http://www.cfos.uaf.edu/cmi/
https://marinecadastre.gov/espis/#/search/study/100130

Revised Date: February 4, 2019