

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Alaska

Planning Area(s): Chukchi Sea

Title: Monitoring Marine Birds of Concern in the Eastern Chukchi Nearshore Area (Loons) (AK-07-04a)

BOEM Information Need(s) to be Addressed: The initial MMS environmental impact analysis for the 5 Year Program, 2007-2012, identifies species of concern in the Chukchi Sea and recent Conservation Recommendations to MMS/BOEM (Section 7 Consultation, Beaufort Sale 186) recommended research on migratory species of concern. Thus, updated information on marine bird distribution, species composition, molting, staging and timing of use in the eastern Chukchi coastal area between Barrow and Point Hope is needed. Avian species of moderate-high concern include the Spectacled Eider, Yellow-billed Loon, Red-throated Loon, and Pacific Black Brant. Both the threatened Spectacled Eiders and the Yellow-billed Loon occur in coastal and marine environments from Barrow south to Cape Lisburne. Ledyard Bay is ESA Critical Habitat for the Spectacled Eiders, and limited surveys indicate Peard Bay may also be an important molting area.

Study findings will be used in post-sale NEPA analysis, ongoing ESA Section 7 Consultations, review of EPs, DPPs and other reviews for post-sale and post-exploration decision making and mitigation. Also, study results will be used in similar pre-lease analyses and documentation for potential future Chukchi Sea Lease Sale(s).

Total Cost: \$819,482 plus Joint Funding

Period of Performance: FY 2007-2013

Conducting Organization: USGS-BRD

BOEM Contact: [Catherine Coon](#)

Description:

Background: Specific areas identified for study in this profile are very important Chukchi Sea coastal lagoons and embayments where waterfowl seasonally concentrate. These locations are vulnerable to industrial disturbance or oil spills potentially associated with offshore oil and gas exploration and development. Scientists have identified the lagoons, bays, and barrier islands along the Alaskan coast of the Chukchi Sea as important feeding, staging, and molting areas for relatively large numbers and a diverse assemblage of water birds breeding in both Alaska and Canada. Peard and Ledyard Bays and Kasegaluk Lagoon, in particular, appear to represent important staging and/or molting habitat for a variety of shorebirds, seabirds (nesting colonies at Point Hope, Cape Lewis, Cape Lisburne, Point Lay, Icy Cape, and Cape Thompson), and waterfowl. In particular, it is critical to identify high-use areas by threatened Spectacled Eiders. Also, the USFWS was petitioned in 2004 to list the Yellow-billed Loon under the ESA and thus this species is of concern to BOEM. USFWS aerial surveys recorded fairly sizeable concentrations of Spectacled Eiders in Peard Bay, particularly in August which are presumably molting birds.

Scientists have identified Kasegaluk Lagoon as a major fall staging area for a large proportion of the Pacific Flyway population of Black Brant (approximately 40%). Coastal aerial surveys and on-shore migration surveys encountered Yellow-billed Loons, particularly in the fall. Recent satellite telemetry locations of post-breeding Yellow-billed Loons provide additional evidence of the importance of nearshore habitat at Peard and Ledyard Bays, and offshore habitat near Point Hope in the Chukchi Sea. Though the OCS Environmental Assessment Program completed several avian studies in this region, most were done 15-20 years ago.

The BOEM share shown above represents 50 percent of the estimated total joint funding needed for a single component, loons only. Joint funding may be established through coordination with NSSI, BLM, USFWS, or USGS.

Objectives: Document spatial distribution, species composition, timing of use and residence times by foraging, molting, and staging Spectacled Eider, Yellow-billed and Red-throated Loons, and Pacific Black Brant in the vicinity of Peard Bay, Ledyard Bay, and Kasegaluk Lagoon in the eastern Chukchi nearshore environment.

Methods: Periodic low-level (45-50 meters) aerial surveys will be conducted along transects established perpendicular to the shoreline (late summer) and along open-water leads (spring) to document spatial distribution, species composition and timing of use by marine birds and waterfowl. Using a combination of implanted satellite and VHF transmitters, both local and long-distance movements of marked individuals will be documented during the breeding and post-breeding period for Yellow-billed and Red-throated Loons and staging Pacific Black Brant. A combination of behavioral observations and monitoring of implanted transmitters will be used to estimate distance flown/feeding flight, time away from nest, and food items provisioned to young for Yellow-billed and Red-throated Loons. Either satellite telemetry or transmitters and remote stations will be used to estimate peak arrival and departure times, as well as residence times, for a sample of Pacific Black Brant in Kasegaluk Lagoon. Using either focal or scan sampling techniques, proportion of time spent feeding (versus other behaviors) by staging Pacific Black Brant will be documented. Foraging behavior (e.g., foraging bout length, pecks/minute) and foods consumed will be quantified via direct observation. Collection of birds on various dates post-arrival would provide invaluable information on both diets and nutrient acquisition and energetics.

Current Status: Ongoing

Final Report Due: February 2013

Publications Completed: None

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>

Revised Date: December 2012

ESPIS: Environmental Studies Program Information System

All *completed* ESP studies can be found

here: http://www.data.boem.gov/homepg/data_center/other/espis/espisfront.asp