

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Alaska

Planning Area(s): Chukchi Sea

Title: Pinniped Movements and Foraging: Walrus Habitat Use in the Potential Drilling Area (AK-09-01)

BOEM Information Need(s) to be Addressed: Large numbers of pinnipeds migrate through and potentially occupy areas of high oil and gas potential in the Chukchi Sea. Pinnipeds may be affected in a variety of ways during all stages of oil and gas exploration, development, and production. Study findings will support NEPA analyses for potential future lease sales, review of EPs, DPPs and other reviews for BOEM decision-making and mitigation.

Total Cost: \$1,529,137

Period of Performance: FY 2009-2016

Conducting Organization: ADF&G

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Description:

Background: The majority of the reproductive component of the Pacific walrus population (i.e., females, calves, and juveniles) migrate through the Chukchi Sea twice annually between winter and summer areas. Each summer, as winter pack ice receded, walruses, bearded seals, and other pinnipeds have followed the ice edge from wintering areas to its northern margin. For example, large numbers of walruses migrated past the Lisburne Peninsula northward over rich potential feeding habitat such as Hanna Shoal and adjacent areas of high oil and gas potential. During this northward migration, many walruses moved along coastal leads between Point Hope and Point Barrow and were hunted by Alaska Natives.

Over the past few years, summer distribution of walruses may be changing as a result of changes in summer pack ice. Concern has been expressed by Alaska Native hunters that in recent summers, sea ice (which females use as a platform for rest between feeding bouts) has been receding faster and further to the north, making walrus less available to the communities that depend on them. Walruses are less likely to follow the ice edge beyond the shelf break and have been using land haul-outs instead. For example, in summer 2007, large numbers of walruses were hauled out on land between the villages of Point Lay and Wainwright. Many additional tens of thousands hauled out along the Chukchi coastline in Russia. In the future, less sea ice will likely make land haul-outs more important and feeding areas near those haul-outs of great importance. Updated information is needed on how walruses move through this region, where they haul out, and where they forage.

The area located just south of Hanna Shoal is a region of high oil and gas potential. It is thus situated between winter habitat and potentially important summer feeding habitat

on, and around, Hanna Shoal. Oil and gas exploration and development and production activities may have consequences for pinniped movements and habitat utilization, which in turn could further alter the availability of walrus and ice seals for subsistence by Alaska Natives in villages along the Northwestern Alaskan coastline. Identification of migration routes and high-use habitat areas is critical to assessment of potential impacts from oil- and gas-related industrial activities on pinniped populations and subsistence use by Alaska Natives. A planning phase is currently being accomplished under a cooperative agreement with the University of Alaska-Fairbanks by the Alaska Department of Fish and Game.

Objectives:

- Develop a phased cooperative project to study the movements and habitat use of Pacific Walrus in the Chukchi Sea Planning Area.
- Develop considerations for enhanced monitoring of changes in habitat use and movements.

Methods: This study is modeled on a cooperative study of bowhead whale distribution and movements that is currently supported by BOEM. Review literature and existing data to develop hypotheses about habitat use and seasonal movements between winter and summer habitat. Work with Alaska Natives in coastal villages to compile and analyze traditional ecological knowledge concerning pinniped movements and habitat use. Train Alaska Native hunters or other coastal village residents to deploy satellite transmitters on walrus in the vicinity of respective villages or research vessels. Deploy transmitters to test hypotheses developed. Since tags will have a relatively short lifespan, sampling is to be spread among villages and to the extent possible divided among northward and southward migrating walrus. Involve local Natives in shore-based monitoring of walrus hauling out along the Chukchi Sea coastline with emphasis on relationships between tagged-walrus behaviors and general haul-out use patterns. Analyze data to test hypotheses and develop considerations for enhanced monitoring of changes in habitat use and migration. Maintain data in a Geographical Information System (GIS) database and provide summaries of individual movements regularly on a public website. Share results with residents of communities near the study area. Encourage participation of local Alaska Natives, especially young people, in analysis and interpretation of findings and conclusions to the extent possible.

Current Status: Ongoing

Final Report Due: September 2016

Publications Completed:

Huntington, H.P., M. Nelson, and L.T. Quakenbush. 2012. Traditional Knowledge Regarding Walrus near Point Lay and Wainwright, Alaska. Huntington Consulting, Eagle River, Alaska. 9 pp.

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>
<http://www.adfg.alaska.gov/index.cfm?adfg=marinemammalprogram.walrustracking>

Revised Date: August 2016

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