

## **BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies**

**Study Area(s):** Beaufort Sea, Chukchi Sea

**Administered By:** Alaska OCS Region

**Title:** Aerial Surveys of Arctic Marine Mammals (ASAMM) – Personnel and Aircraft Needs (AK-16-01)

**BOEM Information Need(s) to be Addressed:** This study will maintain long-term monitoring information about potential impacts to marine mammals from OCS oil and gas-related activities and subsequent leasing in the Chukchi and Beaufort Seas. The information will assist BOEM in NEPA analyses for Lease Sales, EPs, and DPPs, ESA Section 7 consultations, MMPA documentation, and decision-making in the Beaufort and Chukchi Seas.

**Total Cost:** \$11,437,309  
plus Joint Funding (~\$420,000)

**Period of Performance:** FY 2016-2019

**Conducting Organization:** NOAA-NMML; USDOJ National Business Center

**BOEM Contact:** [Carol Fairfield](#)

### **Description:**

**Background:** Bowhead whales (*Balaena mysticetus*), gray whales (*Eschrichtius robustus*), beluga whales (*Delphinapterus leucas*), Pacific walrus (*Odobenus rosmarus divergens*), polar bears (*Ursus maritimus*), bearded seals (*Phoca fasciata*), and several other species of ice seals are known to occupy the Chukchi Sea, at least during some seasons. All of these species are subject to changes in environmental variables such as oceanographic currents, sea temperature, sea ice cover, prey availability, and anthropogenic impacts. Moreover all of these species are used for subsistence both in Russia and the US and form an important part of the diet and cultural base for most people in villages along the Chukchi coast. Having a good understanding of the seasonal distribution, relative abundance, and habitat use of marine mammals in the Chukchi Sea is fundamentally important to evaluating the potential environmental impacts associated with oil and gas exploration and development and other anthropogenic activities. Reliable, up-to-date information of this type is needed for marine mammal populations in the Chukchi Sea. Aerial surveys of marine mammals are an efficient tool because they offer quick coverage of large marine areas. Past surveys are available for comparison with new data to assess whether changes in distribution or abundance have occurred since the earlier surveys were completed.

A BOEM-funded investigation of the seasonal migration of the bowhead whales using satellite-tracked animal tags revealed that they are resident in the Bering Sea during the winter and return to the Beaufort Sea in the summer when opening spring leads allow for passage along the Alaskan and Canadian coasts. The bowheads leave the Beaufort Sea in the fall and cross the Chukchi Sea before moving back into the Bering Sea for the winter.

Since 1979, aerial surveying of the fall migration of the bowheads has been conducted, initially by the Bureau of Land Management and subsequently by MMS, now BOEM. This is one of the longest-maintained monitoring of a biological phenomenon and has produced an invaluable baseline of the distribution and habitat use of the bowheads. The baseline can be used to observe changes in distribution and habitat use that may occur due to changing atmospheric and oceanic climates and to OCS oil and gas development activities. This investigation will continue the aerial observations of the fall migration for evidence of these changes. Since the beluga whales and other marine mammals seasonally or otherwise resident in the Beaufort and Chukchi Seas are often sighted during the bowhead whale aerial surveys, their occurrence will also be part of the acquired data.

#### Objectives:

- Document the distributions and relative densities of marine mammals in the Chukchi and Beaufort Seas Planning Areas.
- To the extent possible, delineate the areas that are most important to marine mammals during critical seasons of their annual life history cycles such as calving and feeding.
- Define the annual fall migration of bowhead whales, significant inter-year differences, and long-term trends in the distances from shore and water depths at which whales migrate.
- Monitor temporal and spatial trends in the distribution, relative abundance, habitat, and behaviors (especially feeding) of whales in arctic waters.
- Provide real-time data to BOEM and NMFS on the general progress of the fall migration of bowhead whales across the U.S. Beaufort and Chukchi Seas for use in protection of this Endangered Species, if needed.
- Provide an objective wide-area context for management understanding of the overall fall migration of bowhead whales and site-specific study results.
- Document the spatial and temporal distribution of beluga and gray whales, and other marine mammal species as sighted.

Methods: This Interagency Agreement between NMFS and BOEM will fly aerial line-transect surveys in the Chukchi Sea and Beaufort Sea Planning Areas from mid-July to the end of October to observe the fall migration of the bowhead whales, continuing the decades-long set of observations. For surveys in both seas, the observational and data recording methodology shall follow protocols used by the BOEM in the past surveys of the bowhead fall migration. The scientists will be responsible for the management of this project, all necessary training of support personnel, providing all needed field equipment, conducting all logistical tasks, acquiring all necessary permits, and insuring the safety of all people involved.

The necessary aircraft services (planes, fuel, maintenance, pilots, etc.) to pursue the science objectives will be supported via Interagency Agreement between the National Business Center's Office of Aviation Services and BOEM.

**Current Status:** Ongoing

**Final Report Due:** Annual reports due in June every year

**Publications Completed:** None

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

**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](http://www.data.boem.gov/homepg/data_center/other/espis/espisfront.asp)