

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

**Region:** Alaska

**Planning Area(s):** Beaufort Sea, Chukchi Sea, Northern Bering Sea

**Title:** Ice Seal Movements and Foraging: Village-based Satellite Tracking of Ringed and Bearded Seals (AK-12-05)

**BOEM Information Need(s) to be Addressed:** More information is needed on seal movements and feeding areas relative to areas of interest for oil and gas leasing, exploration and development. Additional information would be particularly useful to evaluate potential interaction between industrial development and anticipated effects of diminished summer sea ice in much of their habitat. Data can be used to design monitoring and mitigation measures and will support NEPA environmental analyses. Since ice seals have been petitioned for listing under the ESA, information from this study may be useful for future ESA Section 7 consultations.

**Total Cost:** \$1,174,994

**Period of Performance:** FY 2013-2017

**Conducting Organization:** ADF&G

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

### **Description:**

**Background:** Considerable effort has been expended since the 1980s to document the distribution, abundance and behavior of ice seals in the Beaufort and Chukchi Seas. However, most of that effort involved aircraft surveys and analysis of prey from stomachs collected by biologists or in subsistence harvests. Some satellite telemetry studies of ringed, bearded, and spotted seals movements have been conducted (funded by MMS and others) showing large scale movements by all species and age classes. One highly successful project was conducted from 2004-2010 near Kotzebue in which local hunters were trained for capture and tagging. Seals tagged near Kotzebue ranged farther north than Barrow and south to Bristol Bay. Overall, because of the proximity to the tagging most of the locations are in the southern Chukchi Sea near Kotzebue. Additional tagging locations are needed to better understand the range of movements and use patterns. Tagging near Pt. Lay, Wainwright, and Barrow may show a greater use of the Lease Sale 193 area and the Beaufort Sea than use by seals tagged near Kotzebue. On the other hand, if seals tagged near Kotzebue go to the Yukon-Kuskokwim area and Bristol Bay, seals tagged in the Bering Sea may also use the Chukchi and Beaufort Seas.

Adult ringed seals are the most ice adapted and are known to use the heaviest ice concentrations throughout winter and spring, and it was assumed that juveniles occupied similar habitats in winter. Movements of adult and juvenile ringed seals tagged near Kotzebue, however, showed juveniles travelling to and wintering near the ice edge in the Bering Sea while adults wintered in heavy ice in the northern Bering and Chukchi Seas. It is likely that other similar patterns of use by species or sex/age classes will be documented during this tagging study.

**Objectives:** To better understand movements and habitat use of ice seals in the Beaufort, Chukchi, and northern Bering Seas.

**Methods:** Using the tagging project conducted in Kotzebue Sound by the Native Village of Kotzebue as a model, develop similar collaborations between local Village Councils, seal hunters, the Ice Seal Committee, NSB, ADF&G, NMFS, BOEM, to establish seal tagging projects near several Native villages selected for their importance in provided missing seal movement information. Biologists have trained hunters in seal capture and tag deployment and provide weekly maps of seal tracks to the hunters and their communities. Movement data will be analyzed relative to ice edge, ice concentration, bathymetry, and residence times.

**Current Status:** Ongoing

**Final Report Due:** September 2017

**Publications Completed:** None

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

**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)