

Environmental Studies Program: Ongoing Studies

Study Area(s): Chukchi Sea

Administered By: Alaska OCS Region

Title: Walrus Seasonal Distribution and Habitat Use in the Eastern Chukchi Sea (AK-13-06)

BOEM Information Need(s) to be Addressed: Data on the seasonal distribution, abundance, and habitat use of Pacific walrus (*Odobenus rosmarus*) are an integral part of assessing and managing anthropogenic risks from Chukchi Sea OCS development. Information on these ecological parameters in the Chukchi Sea are coming to light from current USGS walrus studies, but require further research and monitoring, especially in light of the loss of sea ice habitat and ongoing ecological changes. This study will provide information for NEPA analyses of proposed OCS oil and gas activities, MMPA authorizations by other Federal agencies, and ESA consultations. This study will contribute information useful for developing mitigation strategies to reduce impacts to walrus from proposed oil and gas development activities. In addition, walrus in the Chukchi Sea are an important subsistence resource to Russian and Alaska Natives.

Total BOEM Cost: \$1,685,000
plus Joint Funding (~\$300,000)

Period of Performance: FY 2013-2018

Conducting Organization: USGS

Principal Investigator(s): Dr. Chad Jay

BOEM Contact: [Rick Raymond](#)

Description:

Background: Joint US-Russia aerial surveys to estimate total walrus abundance were conducted in the Chukchi Sea in the fall of 1975, 1980, 1985, 1990, and 1995. Another joint US - Russia walrus abundance aerial survey was conducted in spring of 2006 in the Bering Sea. Recent declines in summer/fall sea ice in the Chukchi Sea have resulted in walrus hauling out at coastal sites in Alaska in fall when sea ice completely disappears over the eastern continental shelf. This situation may provide an opportunity to estimate walrus abundance in the eastern Chukchi Sea in fall by using an aerial survey along the coast of Alaska. The BOEM-funded COMIDA program has conducted opportunistic surveys of the coast to enumerate walrus over the past few years.

The USGS initiated a study in 2007, and expanded the study in subsequent years, to determine the seasonal distribution and habitat use of walrus in the Chukchi Sea. A report on walrus utilization areas in 2008-2011 was published in 2012. However, patterns of utilization are still being established by walrus in response to continued reductions in sea ice habitats in the Chukchi Sea.

Exploration drilling activities in the Chukchi were conducted in 2012 and 2015, and may occur at some time in the future. Therefore, walrus monitoring needs to continue without interruption through at least the next five years to provide pre-development information and describe changes in walrus distribution and abundance associated with changing sea ice habitats. Information regarding the seasonal distribution, abundance, habitat use, and diet of walruses across the planning area will assist in assessing potential impacts and mitigating disturbances associated with proposed exploration and development scenarios. The monitoring activities described in this study profile follow recommendations of the national Ocean Research Priorities Plan (ORPP).

Objectives: The overarching objective of the study is to obtain information on the seasonal abundance, distribution, and habitat use of walruses in the Chukchi Sea. Specific objectives of this study include:

- Determine seasonal distribution and movements of walruses in the Chukchi Sea Planning Area.
- Identify habitats of importance to walruses (e.g., feeding and resting).
- Determine whether prey selection and/or foraging areas are changing over time with increased use of nearshore habitats.
- Assess the feasibility of approaches for estimating the abundance of walruses in the eastern Chukchi Sea in late summer/fall.

Methods:

1. Deploy radio-tag instruments on a sufficient sample of walruses.
2. Use GIS and spatial analysis methods to define important habitats, identify migration pathways, walrus foraging behaviors and activity budgets.
3. Collect appropriate walrus tissue, fecal and/or biopsy samples and perform molecular analysis to identify prey taxa and trends in dietary taxa composition over time.
4. An estimate of walrus abundance in the eastern Chukchi Sea in summer/fall will likely require a combination of coastal aerial surveys to count walruses on land and deployment of satellite radio-tags on walruses to provide data to estimate the availability of walruses for sighting during the survey. Method development will be assessed after the first survey attempt and revised as needed.

Current Status: Completed

Final Report Due: September 2018

Publications Completed: None

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>
<http://alaska.usgs.gov/science/biology/walrus/tracking.html>
<https://marinecadastre.gov/epis/#/search/study/100002>

Revised Date: June 13, 2019