Environmental Studies Program: Studies Development Plan | FY 2022–2023

Title	Alaska Assessment for Cetaceans and Other Marine Mammals (ACOMM) (AK-22-07)
Administered by	Alaska Regional Office
BOEM Contact(s)	Rick Raymond, richard.raymond@boem.gov
Procurement Type(s)	Inter-agency Agreement
Conducting Organization(s)	NOAA
Total BOEM Cost	TBD
Performance Period	FY 2022–2026
Final Report Due	TBD
Date Revised	April 30, 2021
PICOC Summary	
Problem	Marine ecosystems surrounding Alaska support a high diversity of cetacean species, several of which are listed as endangered under the Endangered Species Act (ESA). Additional data on species abundance and trends, seasonal distribution and movements, and habitat use is needed in this region to more fully assess the potential effects on cetaceans and other marine mammals of current and future oil and gas activities associated with the Outer Continental Shelf.
Intervention	Rotational, large-scale, visual and acoustic ship-board or aerial surveys and acoustic moorings, are proposed seas across the Alaska OCS to obtain data on the presence, distribution, and abundance of marine mammals with particular focus on subsistence-harvested species such as bowhead and beluga whales; endangered species such as North Pacific right and fin whales; and species such as beaked whales, which may be vulnerable to noise from seismic air guns and other loud sound sources.
Comparison	These surveys will provide baseline information and facilitate future comparisons to examine the potential effects of natural and anthropogenic disturbances. The resulting habitat density models for key cetacean species will be compared to areas of interest for potential future oil and gas activities.
Outcome	This program will provide data on the abundance, trends, and distribution of cetaceans in the Alaska OCS, including Cook Inlet and the Beaufort Sea, to facilitate the development of habitat-based density models to better understand how natural and anthropogenic disturbances may affect marine mammal species.
Context	All Alaska OCS Areas

BOEM Information Need(s): Information on abundance and distribution of cetaceans and other marine mammals is needed to assess overlap between species' habitat and potential oil and gas activities in the coastal and offshore regions of Alaska. The ACOMM program would provide BOEM and collaborating federal agencies with cetacean information needed to meet their regulatory requirements under the ESA, Marine Mammal Protection Act (MMPA), and National Environmental Policy Act (NEPA).

Background: Federal agencies are responsible for assessing and managing protected species within the waters of the U.S. EEZ. Data on cetacean abundance, distribution and habitat use are critical for assessing potential natural and anthropogenic impacts. This need for cetacean information has led to the development of three very successful large-scale, multi-agency, cetacean assessment programs jointly established and funded by BOEM, NOAA, and the U.S. Navy: 1) Atlantic Marine Assessment Program for Protected Species (AMAPPS), 2) Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS), and 3) Pacific Marine Assessment Program for Protected Species (PacMAPPS). The missing sector in this national effort is the Arctic, and an Arctic Marine Assessment Program for Protected Species (ArMAPPS) is in the planning stages. Establishing the ArMAPPS program will fill the remaining regional gap to provide basic cetacean assessments across U.S. territorial waters.

The proposed Alaska-focused program, ACOMM, would leverage and closely collaborate with the PacMAPPS and ArMAPPS programs to address BOEM's information needs.

Objectives: By conducting comprehensive rotational marine mammal research on the Alaska OCS, the ACOMM program will improve the knowledge base of federal agencies with protected species responsibilities. Specifically, the objectives are to:

- Use visual and acoustic survey techniques and acoustic moorings to collect information about abundance, trends, and distribution for cetaceans in Alaska.
- Collect data on life-history, residence time, and stock structure when possible.
- Develop habitat-based density models for generating finer-scale predictions of cetacean seasonal density or occurrence and for understanding how these are changing with the environment.
- Evaluate the optimal frequency for future tagging studies to better assess foraging behavior and seasonal movements of target species.

Methods: Visual and acoustic shipboard or aerial surveys will be conducted on a rotational basis in the throughout the Alaska OCS to collect needed abundance, trend, and distribution data of cetaceans. The survey design will consist of predetermined track lines within survey strata, defined for each geographic region given current information on cetacean distribution. A higher proportion of survey effort will be allocated within areas where cetacean abundance for some species is expected to be higher and have a higher potential to be affected by BOEM-regulated activities. Researchers will investigate the use of modern video-capture and analysis methods, including artificial intelligence techniques, to supplement or substitute for some crewed aerial survey efforts.

Researchers will analyze acoustic and line-transect survey data independently to calculate abundance estimates or trends for as many cetacean species as possible. Visual and auditory detections also will be combined to examine spatial variation in the probability of occurrence for cetacean species following emerging analytical techniques. Additionally, distribution data will be linked to habitat characteristics to create fine-scale spatially explicit density estimates that can be used to meet regulatory requirements of BOEM. Finally, a refined survey schedule for future monitoring will be developed collaboratively through

discussion among BOEM and NOAA staff. For example, it may be desirable to shift annual survey efforts in a 5-6-year rotation among sub-regions of the research area.

Specific Research Question(s):

1. What is the abundance and distribution of cetacean species, particularly subsistence-harvested and endangered species, that utilize habitats or migrate through areas potentially affected by activities associated with oil and gas exploration and development?
2. What is the overlap between the predicted habitat of cetacean species and areas associated with oil and gas exploration, development, and future lease sales?

Current Status: N/A

Publications Completed: N/A

Affiliated WWW Sites: N/A