

Environmental Studies Program: Ongoing Study

Title	Monitoring the Cross Island Subsistence Whale Hunt for Effects from Liberty Development and Production, Central Beaufort Sea, Alaska (AK-19-05)
Administered by	Alaska Regional Office
BOEM Contact(s)	Dr. Jeffrey Brooks (jeffrey.brooks@boem.gov)
Procurement Type(s)	Contract
Conducting Organization(s)	Applied Sociocultural Research, Inc.
Total BOEM Cost	\$481,850
Performance Period	FY 2020–2025
Final Report Due	December 2024
Date Revised	October 17, 2022
Problem	Iñupiaq traditional knowledge states that bowhead whales deflect from anthropogenic noise. Nuiqsut hunters engage in subsistence harvest of bowhead whales at Cross Island, which is downstream from the proposed Liberty development. Whalers are concerned that noise associated with construction activities and vessel and aircraft traffic at the site will cause bowheads to deflect from Cross Island since they potentially will encounter anthropogenic noise from Liberty when they migrate from east to west. This could result in lower than usual success in harvesting, more difficulties in whaling, and negatively affect cultural practices, sharing networks, and important community celebrations where bowhead is primarily served to elders and other residents.
Intervention	This study will monitor the annual bowhead whale hunt at Cross Island, identify any source of disturbance, and identify whaling hunters' scouting tracks and locations of strikes and landings. In addition, the study will document the harvest and processing of whales, the hunters' Indigenous knowledge, and other external drivers such as weather, wind, sea states, and ice conditions.
Comparison	Whaling at Cross Island has been documented through collection of Global Positioning System (GPS) data since 1999. Results from this study will be evaluated against that baseline.
Outcome	This study will provide documentation of any changes in number and distribution of bowhead whales available for harvest, as well as changes in the whales' behavior (specifically increased skittishness).
Context	The area surrounding Cross Island in the Beaufort Sea Planning Area

BOEM Information Need(s): The Bureau of Ocean Energy Management (BOEM) has an ongoing need to monitor Cross Island whaling activities for potential impacts from oil and gas-related activities on the Outer Continental Shelf (OCS). Information obtained from this study will inform BOEM and BSEE about potential temporal and spatial conflicts between subsistence use and activities associated with proposed oil and gas development activities at Liberty, including marine vessel passage, excavation,

drilling and construction. The information will also inform future National Environmental Policy Act (NEPA) analysis and documentation related to potential future lease sales, as well as potential future exploration plans and development and production plans (DPPs). This information includes new data on potential effects of anthropogenic noise on subsistence whaling activities, Indigenous knowledge regarding migrating bowhead whale behavior, and possible effects of presence or absence sea ice on the whale hunt.

Background: The DPP for the Liberty Development Project proposes an offshore gravel island with a pipeline to land. The facility will be constructed southeast of Cross Island, where Iñupiat subsistence bowhead whale hunters launch their annual fall hunt for bowhead whales. Subsistence whalers have expressed concerns about potential effects to the bowhead whale hunt, due to the potential disturbance of the bowheads as they migrate from the east to the west in the fall. The concern, based on Indigenous knowledge, is that anthropogenic noise emanating from the Liberty site will affect the whales, causing them to deflect and reduce their prospects for successful harvests. This study will renew the long-term BOEM-funded ethnographic monitoring effort of subsistence whaling activities, incorporating Indigenous knowledge about bowhead whales and real-time information about proximity of sea ice to GPS recorded whaling tracks. The study will build upon prior efforts to document the effects of the development at Northstar on Cross Island subsistence conducted between 2001 and 2012 under the multi-disciplinary Arctic Nearshore Impact Monitoring in Development Area (ANIMIDA) project and its continuation (cANIMIDA) (Galginaitis, 2014).

Objectives:

- Evaluate variation in Cross Island subsistence whaling over time
- Assess whether OCS oil development activities at Liberty are likely to result in changes to bowhead whale subsistence hunting practices, or to hunting success at Cross Island

Methods: This study continues the methods established during the ANIMIDA and cANIMIDA projects. It calls for systematic observations and discussions with local informants about: a) number of whales taken; b) GPS location of whale sightings and strikes, with direction and distance from Cross Island; c) number of crews, composition of crews, total number of crew; d) periodic “census” of whaling participants on Cross Island; e) duration of whaling season by active days; f) timing of whaling; g) length of trips and area searched while whaling; h) records of catch per unit effort; i) observations of whaling participants; j) real time records of the location of sea ice relative to Cross Island; k) collection of Indigenous knowledge regarding bowhead whale and hunting practices; and l) weather, wind, and sea states. Recorded data will be presented in an annual report using tabular information on harvest levels and locations of subsistence resources taken on or near Cross Island, with hard copy maps showing the locations of subsistence whaling activities.

This study will leverage multiple recently completed and ongoing projects supported by the State of Alaska, North Slope Borough, and private industry.

Specific Research Questions:

1. Would subsistence whaling activity and whale behaviors in the vicinity of Cross Island be affected by offshore oil and gas development at Liberty?
2. If so, in what ways?

3. Do the whales become skittish and more difficult to harvest, and if so, what behaviors comprise "skittishness" and how long does it take for whales to resume normal behavior?
4. Do the whales dive or deflect, and if so, for how long and how far? How long does it take for whales to resume normal behavior?
5. Did these alterations in behavior increase the level of effort or seem to limit the ability to harvest the quota of whales? Did it result in placing whalers in hazardous conditions? Please describe.
6. What Indigenous knowledge can be documented regarding typical whale migratory behavior?

Current Status: Ongoing, fieldwork completed; data analyses underway.

Publications Completed: None

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

References:

Galginaitis M. 2014. Monitoring Cross Island whaling activities, Beaufort Sea, Alaska: 2008-2012 final report, incorporating ANIMIDA and cANIMIDA (2001-2007). 208 p. Anchorage (AK): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study, BOEM 2013-218.