

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Alaska

Planning Area(s): Beaufort Sea

Title: Subsistence Use and Knowledge of Beaufort Salmon Populations
(08-12-04)

BOEM Information Need(s) to be Addressed: This study will collect information on subsistence harvest and traditional knowledge (TK) of salmon that will be used to meet Essential Fish Habitat and NEPA requirements for Beaufort Sea lease sales. This research will inform local communities, local and State resource managers, and BOEM of ecosystem health, which is so important to subsistence lifestyle. This study addresses aspects of USGS Recommendation 3.06.

Total Cost: \$119,459 plus Joint Funding

Period of Performance: FY 2009-2012

Conducting Organization: CMI, UAF

BOEM Contact: [Chris Campbell](#)

Description:

Background: The National Marine Fisheries Service has defined the entire OCS of the Beaufort Sea as Essential Fish Habitat (EFH) for all five Alaskan salmon species (king, sockeye, coho, chum & pink). As a result, BOEM and NMFS must consult about the effects that proposed oil and gas developments in the Beaufort OCS might have on essential salmon habitat. Although salmon EFH has been designated, salmon are rare in the Beaufort Sea. During the summer, adult pink and chum salmon are present in the Colville River and its tributaries, and caught in small subsistence fisheries by Native Alaskans living in the area. Previous studies have not demonstrated significant numbers of adults of other species. Immature life stages and successful spawning have not been found in the Beaufort Sea area. However, local residents have testified in MMS hearings that more and different salmon are being caught in their subsistence fisheries. Salmon populations on the North Slope could expand if the recent trend of mild winters continues. There are no recent estimates on the extent of subsistence use of salmon along the Beaufort Sea.

This study will document local observations of increasing numbers of salmon in subsistence fisheries and close the knowledge gap by synthesizing relevant research and conducting ethnographic fieldwork among the Iñupiat communities about changing salmon populations/species composition. This data will update information on subsistence harvest and TK about salmon. The study will also map and document the spatial and temporal distribution of salmon species in streams, and may provide more specific information about effects of warming temperatures in Arctic waters upon signal species like salmon.

Objectives:

- Establish a strong rapport with local community residents and regional experts.
- Document the current subsistence use of various Beaufort Sea salmon populations in Barrow, Nuiqsut, and Kaktovik or Atqasuk.
- Document the local and traditional knowledge of historic and recent trends in salmon use, abundance, and distribution.
- Better understand the Iñupiaq context for ecological observation and appropriate uses of such knowledge.
- Use spatial and ethnographic data to identify streams and coastal areas where salmon have been harvested or observed.
- Locate and document the principle areas used by various salmon species near OCS developments in the Beaufort Sea.

Methods: This study has two phases, with the second phase being contingent upon recommendations resulting from analyses conducted in Phase I. In Phase I, the investigator will: 1) conduct a literature review; 2) complete about 20 formal interviews with key informants; 3) generate a master map of each community region to mark salmon presence areas as identified by informants; 4) annotated bibliography of relevant literature; 5) prepare a synthesis report encompassing literature, interviews, TK, and spatial data; 6) recommend whether Phase II field research is needed and the methodology to be used to conduct field investigations necessary to fill data gaps. In Phase II, the investigator will: 1) conduct fieldwork using methodology and study designs developed in Phase I; 2) prepare a report updating information, about species composition salmon in the Beaufort Sea, including population sizes, spawning habitat, and rearing habitat.

Current Status: Ongoing

Final Report Due: September 2012

Publications Completed: None

Affiliated WWW Sites: <http://www.boem.gov/akstudies/>
<http://www.sfos.uaf.edu/cmi/>

Revised Date: July 2012

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