

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Alaska

Planning Area(s): Chukchi Sea

Title: Dispersal Patterns and Summer Ocean Distribution of Adult Dolly Varden from the Wulik River, Alaska, Evaluated Using Satellite Telemetry (AK-08-12-11)

BOEM Information Need(s) to be Addressed: This study addresses an important subsistence fish that is a key resource for residents of northwestern Alaska. It will provide important information about the distribution of Dolly Varden in the Chukchi Sea. BOEM analysts and decision makers will use this information in NEPA analysis and documentation for Lease Sales, EPs and DPPs.

Total Cost: \$146,511 plus Joint Funding

Period of Performance: FY 2012-2013

Conducting Organization: CMI, UAF

BOEM Contact: [Kate Wedemeyer](#)

Description:

Background: In northwest Alaska, Dolly Varden (*Salvelinus malma*) are highly valued as a subsistence fish and local residents harvest thousands of these fish each year. Dolly Varden are classified as anadromous fishes, meaning they spawn and rear as juveniles in freshwater and feed in saltwater later in life. Young Dolly Varden rear in freshwater for 2–5 years and after this freshwater residence period, they undertake annual migrations in the spring into marine waters to feed during the summer, sometimes traveling large distances. In northwestern Alaska, Dolly Varden usually undertake three to five ocean migrations before reaching maturity, and once becoming sexually mature, they generally only spawn every two years.

In the fall, these fish return to rivers to overwinter. The lower Wulik, Kivalina, and Noatak rivers, where sufficient groundwater provides suitable habitat throughout the winter, are important overwintering areas. Immature and mature-nonspawning Dolly Varden do not demonstrate site fidelity to overwintering areas, therefore during this phase in their life they may become distributed over a wide geographic area resulting in mixed populations in overwintering areas. However, Dolly Varden appear to return home to natal streams for spawning.

Objectives: This study will describe baseline ecological information about Dolly Varden tagged in the Wulik River, Alaska, including: timing of outmigration from the Wulik River; summer dispersal; temporal and spatial distribution; and depth and temperature occupancy

Methods: This study will tag 20 large Dolly Varden in the Wulik River using satellite pop-up tags. The tags will be programmed so that four tags will pop-up every two weeks and transmit their data via satellite. The tags will measure and record temperature, depth and ambient light

data for daily geoposition estimates at 10-minute intervals. Information on depth and temperature occupancy may provide important insights into Dolly Varden behavior, such as feeding migrating and spawning.

Current Status: Ongoing

Final Report Due: April 2013

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