

BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies

Region: Alaska

Planning Area(s): Beaufort Sea, Chukchi Sea

Title: A Year in the Life of a Bowhead Whale: An Animated Film
(AK-08-12-10)

BOEM Information Need(s) to be Addressed: The project is for public outreach. It serves to promote an aware and informed public.

Total Cost: \$87,587
plus Joint Funding (\$69,300)

Period of Performance: FY 2012-2016

Conducting Organization: CMI, UAF; University of Alaska Museum of the North

BOEM Contact: [Carol Fairfield](#)

Description:

Background: Science and technology increasingly play important roles in the development of public policies relating to a wide range of societal issues. Science outreach serves to promote an aware and informed public. Research has been underway on bowhead whale ecology, movements and distribution for decades, and significant body of knowledge regarding annual migrations, seasonal ranges, movements and bowhead feeding concentrations in the Barrow arch attracted by prey and nutrients transported from the Bering Sea through Barrow Canyon and upwelled onto the Beaufort shelf near Barrow. Other large concentrations of whales, pinnipeds and water birds are found in the area and may be attracted by elements of the same mechanism.

This project will undertake to produce an animated film for outreach purposes that will visualize processes relating how bowhead whales feed on zooplankton (krill and copepods) and how winds, ocean currents, and bathymetry interact to create favorable feeding opportunities for bowhead whales and animate the year-long cycle of bowhead seasonal movement and areas of habitat use. An animated film was chosen as the outreach medium because the aforementioned processes are best visualized through a medium that conveys motion. The narrative script will be translated from English to Iñupiaq by an Alaska Native speaker and the Iñupiaq language track will be narrated by an Alaska Native speaker.

Objectives:

- To produce an animated film to improve public understanding of the arctic marine ecosystem (a BOEM framework issue), with emphasis on those components associated with the bowhead whale and its zooplankton prey.
- To synthesize of some recent and ongoing MMS/BOEM-funded (directly or indirectly) research projects (whale tagging, aerial surveys, oceanography) conducted in the Chukchi and Beaufort Seas.

Methods: The organizing framework for the proposed animated film will be the annual migration of the bowhead whale encompassing the wintering grounds in the Bering Sea, northward and eastward migration through the Chukchi and Beaufort Seas during spring to the summer feeding grounds in the Canadian Beaufort Sea, westward and southward migration during fall, and return to their wintering grounds in the Bering Sea.

Production of the animated film is broken into three overlapping phases. Pre-production includes intensive scripting by museum writers/editors, museum educators and researchers; storyboarding; and initial work on existing data collection and processing, and production graphic and sound design. The pre-production phase sets production parameters and style, and determines level of detail for all following project components. The production phase of the project will entail computer-graphic modeling, rigging, determined environment layouts, animation, lighting, textures, and effects. The post-production phase includes shot editing, sound editing, output to DVD media, printing, promotion, and distribution.

Current Status: Awaiting final report

Final Report Due: September 2015

Publications Completed: Animated Film “Arctic Currents: A Year in the Life of the Bowhead Whale”, with 3 language tracks – English, Iñupiaq, and St. Lawrence Island Yupik

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

Revised Date: November 2015

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