

## Abstract of Project: Sea otter recolonization and interactions with commercially important macroinvertebrates in southeast Alaska

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Sea otters were extirpated by the fur trade from Southeast Alaska (SEAK) by the late 1800's. In the absence of sea otters, macroinvertebrate populations increased, and lucrative fisheries for Dungeness crab and California sea cucumbers developed. In an effort to re-establish sea otters in their historical range, otters were translocated to SEAK between 1965-1969 by the Alaska Department of Fish and Game (ADF&G) (Jameson et al. 1982). The re-introduction was successful and sea otters gradually reoccupied large areas of SEAK (Esslinger and Bodkin 2009). However, over the last 15 years Dungeness and sea cucumber fisheries appear to have been impacted by apparent competition from a sea otter population that is increasing in both range and number. This resource conflict will likely have social and economic repercussions for the region.

The goal of this research is to examine interactions between the sea otter population and their commercially important prey, especially Dungeness crab and sea cucumbers. We will examine small-scale distribution, movement, habitat use and prey selection of sea otters on the colonizing front of the SEAK population currently near Kake. In a collaborative effort among U.S. Fish and Wildlife Service (USFWS), University of Alaska (UA), local fishermen, and subsistence users, we propose to implant VHF radios in 40 sea otters and track their movements, habits, and diet for 2 years. Using data obtained through these efforts in combination with ADF&G catch and survey statistics and a concurrent Alaska Sea Grant funded study on sea otter foraging; we will quantify current effects and project future effects of sea otters on macroinvertebrate fisheries in the region.