



US Forest Service R&D PNW Research Station

Project Title: Modeling Effects of Climate Change on Wildlife Habitats and Species in Alaska

Project Personnel: This work is being conducted under three invited Work Agreements with USDI Geological Survey (USGS), Alaska Science Center.

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Project Description: Three recently started or ongoing projects with USGS pertain to climate change effects: (1) continued refinement of analytic and probabilistic models of global polar bear population response to multiple environmental and anthropogenic stressors, including effects of current and future climate change on sea ice habitat and prey base; (2) beginning modeling of effects of climate change and multiple stressors on western populations of walrus in Alaska, in anticipation of contribution to USFWS listing decision needs on this species; (3) synthesis of data and models of climatology, vegetation, and land cover response, and implications for wildlife species and habitats, in North Slope, Brooks Range, and (later) Yukon Flats regions of northern and central Alaska. Part of item (3) entails development of specific models of climate change effects on brant along the north coast of Alaska.

Project Deliverables: Work to date on polar bear modeling has resulted in two USGS agency synthesis reports delivered to USDI Fish and Wildlife Service (FWS), a series of presentations on model findings to agencies and USDI in Washington D.C., and a submitted book chapter and journal article. Results were used by USDI and FWS in their decision to list the polar bear as a globally threatened species. Presentation of results is also accepted for the February 2009 conference of the Oregon Chapter of The Wildlife Society. Results have also been presented to university seminar classes at University of Wisconsin, Madison, and used therein for seminar discussions and class work.

Project Outcomes: As work proceeds on all three projects, further manuscripts, presentations, and application in major management decisions on species listing (walrus) and land use planning in Alaska are anticipated.