



September 2010

Conservation in Action

Western Alaska Landscape Conservation Cooperative



USFWS photos

Introduction

Collaborative landscape conservation has been identified as a critical step in addressing conservation concerns by the State of Alaska as well as the Departments of Interior, Commerce and Agriculture. The Landscape Conservation Cooperative (LCC) concept was formed as land and resource managers recognized that dealing with the potential effects from climate change will require a stronger level of collaboration. In 2010, the Department of Interior began funding the establishment of LCCs across the country with the Arctic LCC as the first Alaska LCC to receive funding.

In anticipation of funding, federal and state agencies have begun early dialog on establishing the Western Alaska LCC. We are reaching out to include tribal, local governments, academia and conservation organizations to help identify where the LCC can provide the greatest benefit towards on-the-ground conservation.

The Western Alaska LCC will provide additional science-based solutions to facilitate conservation planning and inform resource management actions on broad geographic scales to address landscape-level challenges. While the LCC focus will primarily be on climate-driven issues, the science questions addressed should help provide answers

to other dynamic landscape level conservation concerns.

Ecological Resource Base

The Western Alaska LCC covers a wide diversity of ecological conditions spanning over 750 miles from north to south. Landscapes include the permafrost dominated tundra of the Seward Peninsula, to the complex river delta systems of the Yukon and Kuskokwim rivers, abundant volcanoes of the Alaska Peninsula, and the transitional forests of permafrost-free Kodiak Island.

Western Alaska streams are home to the world's largest natural runs of salmon and the adjacent marine waters of the Bering Sea and Gulf of Alaska support the largest commercial fisheries in the U.S. These rich fisheries also support local communities both as an economic source and as a critical component of a subsistence lifestyle.

The Western Alaska LCC is home to threatened sea otters, spectacled and Steller's eiders and walrus, a species of concern. Steller sea lions, short-tailed albatrosses, and eight species of whales in this region are endangered.

Millions of seabirds breeding along the shore form a strong link between land and sea. Astounding numbers of waterfowl and shorebirds use these

areas for breeding, migration, and wintering habitat. Caribou roam the land, as do healthy populations of moose, bears and wolves.

Villagers throughout this region practice a subsistence lifestyle that is dependent upon the continued health of both marine and terrestrial systems.

Climate Change Concerns

Changing ocean temperatures, circulation patterns and acidity in the Western Alaska LCC may alter the availability of prey for important commercial and subsistence fisheries, seabirds, and marine mammals. Changes in the timing of sea ice melt which alter ice-edge plankton bloom dynamics and earlier loss of seasonal ice are detrimental to the offshore benthic community (crabs, clams) upon which walrus, eiders and people depend.

Wetlands and estuaries critical to shorebirds, waterfowl, and salmon may be affected by sea-level rise, coastal erosion, and changing salinity. The alpine ecology of this region may shrink as shrubs and trees establish themselves further up-slope while introduced plant species may increase their range and degree of invasiveness. Increasingly severe storm events may increase the likelihood of catastrophic ship wrecks and spills.

Coastal erosion accelerated by increased storm activity is already forcing some villages in this area to relocate. In addition, much of the permafrost in the northern portion of the LCC is near its melting point, creating thaw slumps as permafrost melts, increasing erosion and sedimentation in rivers and changing surface hydrology. This could adversely affect hatching rates of fish eggs, aquatic and riparian invertebrate populations and the availability of nesting and brood-rearing habitat for many bird species. Increasing freeze/thaw events may affect survival of tundra browsers.

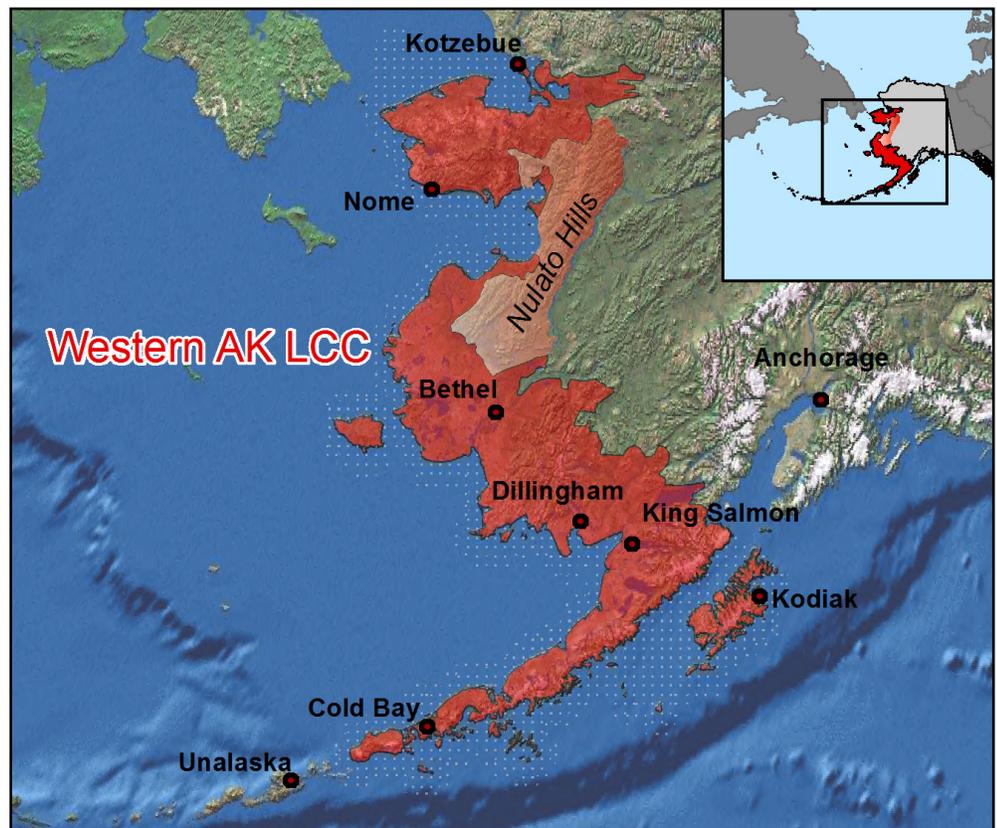
Climate-related changes greatly complicates resource management since such changes affect abundance and distribution of fish and wildlife populations and make it more difficult to predict effects of other activities on these populations.

Partnerships

In 2010, the first steps are underway to pilot the Western Alaska LCC. Representatives from State and Federal agencies have recently begun discussing how to convene the partnerships, but have not yet determined the degree of involvement each agency will assume. We are working to set up meetings throughout the region to dialog with potential partners from the local borough governments, Alaska Native organizations and tribes, other government and non-government organizations and academia.

Strong partnerships already exist in this region, and the LCC will work with these partnerships to better address shared conservation goals. It is imperative that the LCC not duplicate the work of existing partnerships but rather find ways to leverage resources to help meet the shared goals of the cooperative. The same is true for federal and State agency programs.

For example, the Bureau of Land Management is initiating its ecoregional assessment process in the northern extent of the Western AK LCC which complements the LCC efforts but delves deeper into management questions than the newly



formed LCC is prepared to address. The LCC and BLM are joining together to convene local meetings where participants in the northern extent of the LCC can simultaneously discuss both the cooperative and the ecoregional assessment.

The newly established Alaska Climate Science Center is working closely with LCC staff to identify existing and future research funding opportunities. The National Park Service's Vital Signs program is prepared to partner with the LCC to explore how existing monitoring data can be used and which data are missing to inform conservation actions.

Expected Products and Outcomes

Successful implementation of the LCC will provide additional science and planning tools that are fundamental to strategic landscape conservation. The LCC will provide increased baseline ecological data access and integration; risk and vulnerability assessments for species, habitats and ecological processes; and identification of locations for high priority on-the-ground conservation efforts. By serving as a link between land managers and researchers, the LCC will help ensure that our conservation

actions maximize our conservation impact on Alaska's fish, wildlife, habitat and cultural resources.

Upcoming Steps

- Develop initial LCC website to inform partners of upcoming LCC activities (September 2010);
- Initiate Partnership-at-Large outreach and scoping in Cold Bay, Kodiak, King Salmon, Dillingham, Bethel, Nome, Kotzebue, Anchorage and Fairbanks (October -November 2010);
- Collaborate/coordinate with existing climate change conservation programs;
- Host a "State-of-the-Science" climate change workshop for the Western Alaska LCC area (April or May 2011)
- Begin gap analysis to identify information/data needed to manage resources.

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