Landscape Conservation Cooperatives In Alaska

Advancing Science, Understanding Change
Summer 2011 - First Edition

Climate Impacts

Wetlands and estuaries critical to shorebirds, waterfowl, and salmon may be affected by sea-level rise and coastal erosion.

The reduction in sea-ice is bringing new opportunities for shipping routes that would cross through the Alaska LCCs, but also threatens many ice-dependent species.

Changing ocean temperatures, circulation patterns and acidity may alter the entire marine ecosystem, affecting, among other things, the availability of prey for seabirds, marine mammals, and important commercial and subsistence fisheries.

Coastal erosion, accelerated by increased storm activity, is already forcing some villages in Alaska to relocate.

Warming and melting permafrost will change the landscape, altering the distribution and abundance of wetlands and some vegetation communities. The stability of village infrastructure and services such as water treatment facilities and roads are uncertain.

Increased wildfire, with potential increases in pests and diseases, are expected throughout the boreal regions of the state.

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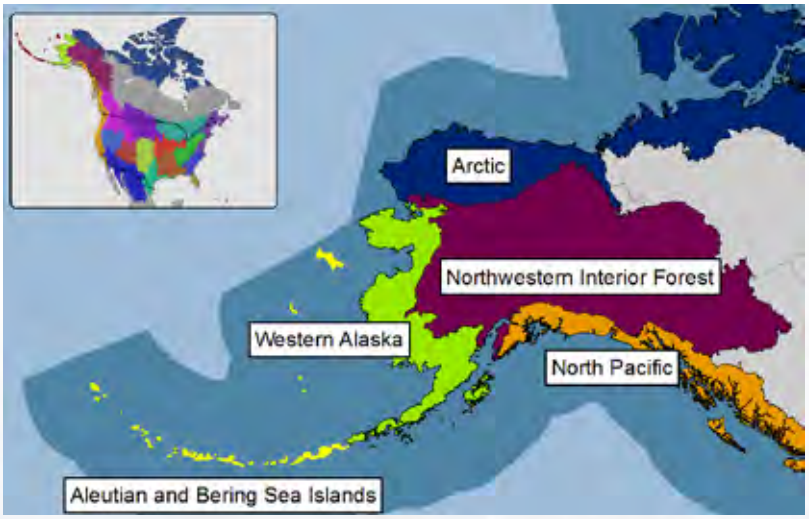
The Conservation Challenge

Climate change is one of the greatest environmental and conservation challenges of the 21st century. The impacts of climate change are already being felt in Alaska. Coastal erosion is accelerating, threatening homes and infrastructure, and as a result, entire communities may need to be relocated. Changing migration patterns of waterfowl, terrestrial and marine mammals, and fluctuations in the movement of fish stocks have influenced subsistence harvest. Warm, dry summers are producing drought conditions over much of the state, altering the landscape by drying wetlands, slowing the growth of trees, and producing more frequent wildland fires.

Understanding and responding to the many facets of environmental change will require unprecedented collaboration and communication among researchers, public agencies, and private organizations.

Landscape Conservation Cooperatives

Landscape Conservation Cooperatives (LCCs) are self-directed partnerships that link science with conservation actions to address climate change and other stressors within and across landscapes. They compliment and build upon existing science and conservation efforts – such as fish habitat partnerships and migratory bird joint ventures – as well as water resources, land, and cultural partnerships. While LCCs will not assume other partner responsibilities or supersede agency decision-making, they will provide the scientific information needed to help inform the development of strategic conservation actions.



Terrestrial boundaries of the five LCCs within Alaska; marine boundary of Alaska LCCs shown in teal blue. Inset shows distribution of LCCs across the North American continent.

Landscape Conservation Cooperatives in Alaska:
Alaska overlaps five LCCs: Aleutian and Bering Sea Islands, Arctic, North Pacific, Northwestern Interior Forest, and Western Alaska. Each LCC is in a different stage of development. The Arctic LCC was the first LCC to be established in Alaska. In 2010, steps were taken to pilot both Western Alaska and North Pacific. Both the Aleutians and Bering Sea Islands and Northwestern Interior Forest are still in the early stages of initiation.

Highlight: Western Alaska LCC

2011 Funded Projects

The Western Alaska LCC focused its first year of funding on 12 collaborative projects addressing fundamental information needs for the LCC's applied conservation science mission. Over half the projects focus on improving understanding of changes in important system drivers, such as hydrological and precipitation cycles or changing permafrost conditions (Figure 1). Many projects will either directly assess recent effects expected as a result of altered climate dynamics or provide baseline information necessary for future assessment of such effects in key habitats or environmental conditions.

The LCC used its $1.3 million of funding to leverage $1.8 million in other sources of funding or support. The LCC also coordinated among the project Principal Investigators to increase co-location of monitoring equipment, joint deployment of equipment to reduce project logistic costs and allow reduced-cost expansion of monitoring coverage, and data sharing among the projects to improve the resulting insights and information (Figure 1).

More information on the projects is available on the LCC's website at *www.arcus.org/western-alaska-lcc*.

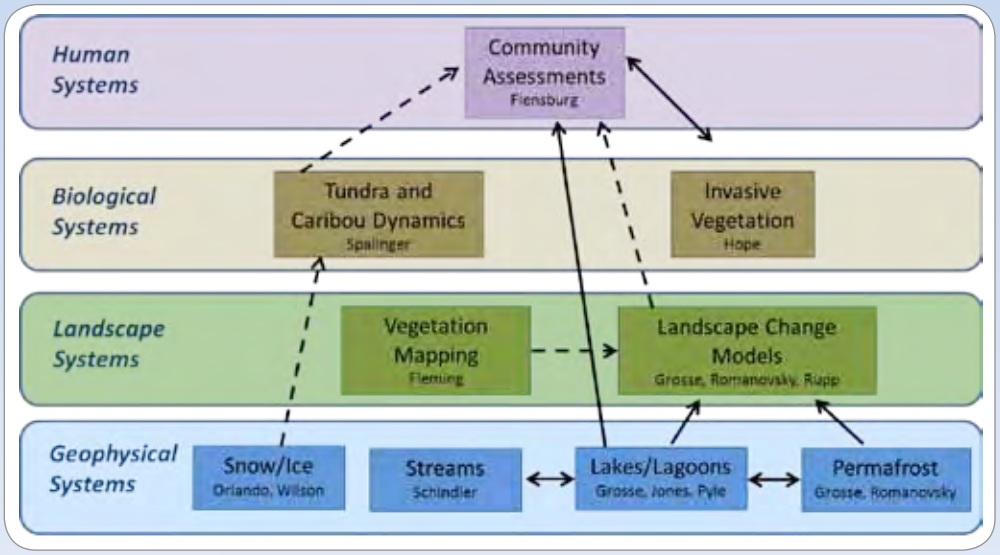


Figure 1: Relationships among projects funded by the Western Alaska LCC in 2011. Each box represents major topics and includes the project's principal investigator name. Solid lines denote co-located field sites, data sharing, or direct usage of project results. Dashed lines represent potential linkages via contribution of project results.

Science Workshop A Success

The Western Alaska Landscape LCC recently hosted a Science Workshop, gathering 150 managers, field specialists, researchers and local knowledge experts to identify climate change related priority science/information needs for land and resource management in western Alaska.

The workshop results are being summarized in a report that will help inform development of the LCC's science strategy. This science plan will guide the LCC's efforts over the next five years. It will be drafted during the winter of 2012 and distributed for public comments.

Arctic LCC Update

The Arctic LCC staff is excited to have funded 22 new projects in 2011, totaling nearly $1.5 million, with an additional $3.6 million in partner contributions. This is on top of the 14 projects funded in 2010. Fact sheets for studies funded in 2010 are available at *http://alaska.fws.gov/lcc/current_projects.htm*, and will soon be found at *www.ArcticLCC.org*.

This LCC remains on the cutting edge in terms of putting funds to work on the ground, developing a data-sharing policy for LCC funded work, and managing and serving information to partners. In the coming year, here is what you can expect of the Arctic LCC: increased involvement with tribal governments, better collaboration with Canada, a 10-year science plan, a short-term science strategy that will guide the next Arctic LCC Request For Proposal, a dynamic web presence, and the launch of our database hosting services.

The Arctic LCC welcomes Joshua Bradley, recently of Ahsahka, Idaho, as its newest staff member. In Idaho, Josh coordinated the National Wild Fish Health Survey. As Arctic LCC Database Manager, Josh will serve to the public, and help maintain, huge datasets from LCC funded projects. He is currently developing a project tracking system that will likely find use outside of the Arctic LCC, and is ready to launch *www.ArcticLCC.org*, our new web presence and gateway to untold treasures of arctic information and data. He now resides in Fairbanks with his wife Catherine and two dogs.

Doug Burn, Interim Coordinator

Vernon Byrd, Interim Science Coordinator

Aleutian and Bering Sea Islands LCC Update

In June, interim staff was brought on board to begin operations in the Aleutian and Bering Sea Islands LCC. Doug Burn is detailed from the U.S. Fish and Wildlife Service (USFWS) Marine Mammals Management Office to serve as Interim LCC Coordinator. As the Sea Otter Program Leader, Doug has been working on sea otter research and management in Alaska for 22 years.

Assisting Doug as Interim Science Coordinator is Vernon Byrd. Vernon served as the Supervisory Wildlife Biologist at the Alaska Maritime National Wildlife Refuge for over 17 years. His experience with the wildlife, habitats, and people of the Aleutian Islands is a tremendous asset that will help the Aleutian and Bering Sea Islands LCC get off to a good start.

Initial tasks include a thorough review of ongoing scientific research and conservation activities within the LCC. Many of these activities are being conducted by existing partnerships between federal, state, and tribal government organizations.

The staff will also work to form an interim steering committee to guide the operation of the LCC until it receives additional funding to support dedicated research. Formation of the interim steering committee will culminate in their first meeting, planned for September.

Northwestern Interior Forest LCC Update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Amanda Robertson, Interim Science Coordinator

The Northwestern Interior Forest LCC welcomes Amanda Robertson as interim science coordinator. Amanda, a landscape-level ecologist/geneticist is currently a Ph.D. candidate in biological sciences at UAF; she expects to complete her degree in early 2012. Her dissertation research is focused on the migration potential of a boreal forest tree in a changing climate, a topic ideally suited to working with the LCC.

Amanda is also working with Dawn Magness, Kenai National Wildlife Refuge GIS Manager/Wildlife Biologist, to provide existing baseline scientific information and projected changes within the LCC region to present at the initial Interim Steering Committee meeting tentatively scheduled in September.

Amanda would like to acknowledge Kanuti National Wildlife Refuge Manager, Mike Spindler, for serving so effectively as the LCC's point of contact for the past year. Thank you, Mike!

Goals for this fiscal year include reaching out to partners, identifying interim steering committee members and holding an initial steering committee meeting.


Dawn Magness

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For more information and to learn how you can participate please contact the LCC coordinators in your area.

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Landscape Conservation Cooperatives in Alaska is a quarterly newsletter to share information about LCCs within Alaska and provide updates on their accomplishments.