North Pacific Landscape Conservation Cooperative

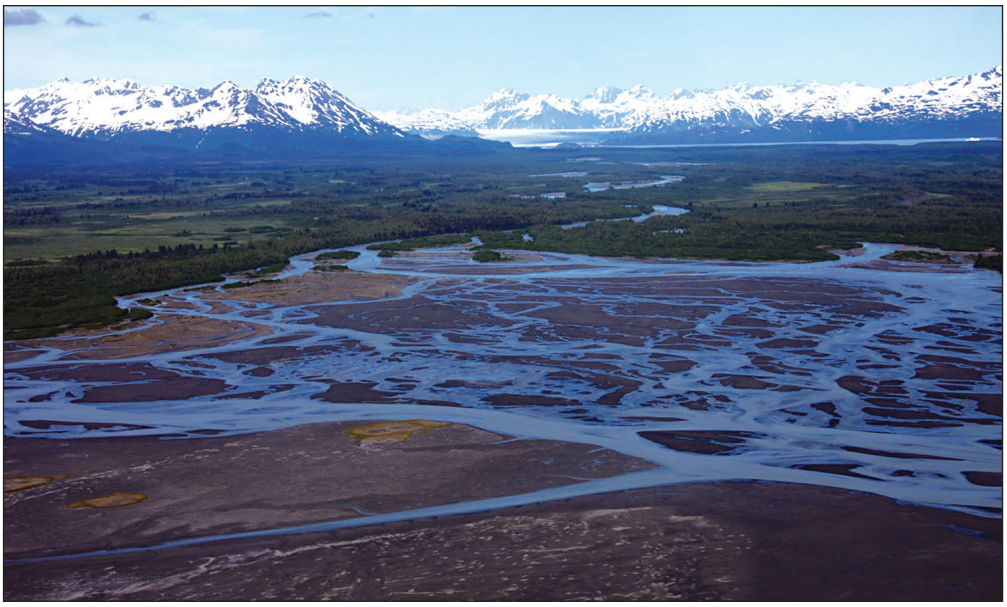
Introduction

Landscape Conservation Cooperatives (LCCs) are self-directed conservation partnerships to address the challenges of climate change in an integrated fashion across broad areas. LCCs provide scientific and technical support for landscape conservation in an adaptive management framework, with an emphasis on biological planning, conservation design, prioritizing research and designing inventory and monitoring programs. Products developed by the LCC will help inform conservation delivery efforts on the ground.

Conservation Need in the North Pacific LCC

Climate change is the greatest environmental and conservation challenge of the 21st Century. The impacts of climate change will exacerbate existing stressors on our fish and wildlife resources. Expected physical changes include rising mean sea level, widespread melting of snow and ice, changes in ocean currents and precipitation patterns, ocean acidification, coastal erosion, and increased flooding rates. All will contribute to increased biological impacts such as new species invasions, disease outbreaks, disrupted food webs, loss of intact plant communities and ultimately, increased species extinctions.

North Pacific LCC marine, estuarine, freshwater, and terrestrial habitats support a rich diversity of species and food webs. They have cultural significance to Native Americans throughout the region. Our marine and coastal island habitats are essential to seabirds, shorebirds and other Pacific Flyway migratory species. Highly productive nearshore marine ecosystems are key to sustaining healthy populations of marine mammals, Pacific salmon, forage fish, and shellfish. Forested habitats in the Pacific Coast ranges support many resident and migrant birds, including the marbled murrelet, spotted owl, dusky Canada goose, Queen Charlotte goshawk, all species of conservation concern. Recently deglaciated habitats in coastal Alaska are important to breeding Kittlitz's murrelets, also a species of concern. Prairie habitats are host to numerous species of imperiled plants, birds, mammals and butterflies.



Dangerous River with Harlequin Lake and Yakutat Glacier in the background. ©Mike Denega

In addition to managing the impacts to species, maintaining and preserving State and Federal protected areas, and other area of concern will be a challenge. Inundation of lands and loss of land management ability for selected species will occur. Operational impacts to fish hatcheries from reduced fresh cold water may be severe, prompting programmatic changes to production across the geographic scope of the LCC.

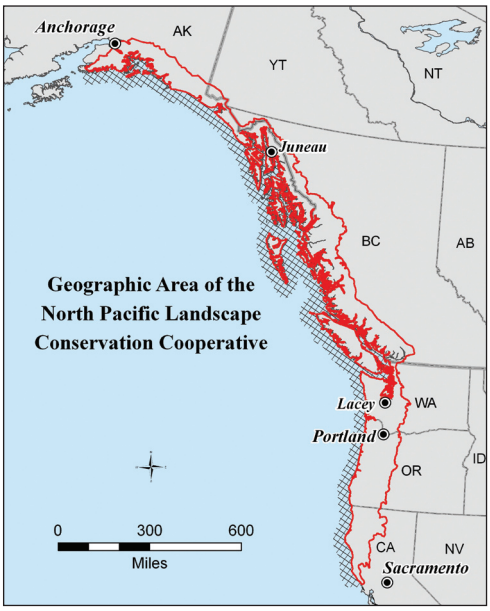
Managing our North Pacific natural resources and infrastructure in the face of climate change impacts will be very challenging. The North Pacific LCC provides us the critical bridge to link science and management to effectively address these challenges.

Partnerships

LCCs convene partners with complementary conservation goals. Participation in the North Pacific LCC is anticipated to include agencies and organizations that by virtue of their mission, mandates or authorities, have identified conservation as a priority to accomplish their objectives. This includes a number of Federal, State, and Provincial agencies; Tribes and First Nations; universities; nongovernmental organizations; and other entities using a coordinated landscape-scale approach. LCCs rely on and support existing partnerships, coalitions, and cooperatives. The North Pacific region already has a number of major partnerships underway that capitalize on large-scale biological planning and conservation design. The North Pacific LCC will work closely with these partnerships.

North Pacific LCC Functions and Framework

The LCC will provide a forum to foster continuous exchange, feedback, and understanding among resource managers, scientists, and stakeholders. It will convene multiple partners to identify and establish long-term, measurable conservation goals at a landscape scale for a prioritized set of natural resources. This will be done in a manner that improves efficiency of fish and wildlife adaptation strategies and actions. Conservation benefits can be more effectively maximized by leveraging technical and financial resources for mutually defined conservation objectives.



LCC partners will generate and deliver data, analyses, monitoring protocols, and scientific tools; including model projections, risk analysis and fish, wildlife and vegetative community assessments; to inform fish and wildlife adaptation and mitigation strategies and actions.

We will work with partners to create a framework for this integration of conservation management and climate science. This effort will be coordinated with other existing climate change efforts in the region. It will be set up in a manner that will facilitate the delivery of conservation on the ground with those who bring additional science capacity to biological planning, conservation design and the design of monitoring, research and evaluations.

A steering committee, comprised of executive-level and management-level partner representatives, will guide the activities of the LCC and define LCC priorities. The North Pacific LCC steering committee may form committees to manage issues, information management and outreach and/or geographic sub-units within the LCC.

Expected Products and Outcomes

The products and services that the North Pacific LCC provides will support natural resource management decision making.

- Develop explicit and measurable biological objectives to guide conservation design and delivery
- Apply downscaled climate models and landscape scales to predict effects on fish, wildlife, plants and their habitats
- Assess watershed resiliency with changing hydroperiods to inform restoration investments
- Develop landscape level analyses to support corridor strategy planning
- Identify and prioritize cold water systems and refugia for anadromous fish strongholds
- Monitor habitat instabilities from invasive species threats and from native species range expansions
- Provide analyses to inform coordinated fish and wildlife response strategies, including public outreach, for disease- and environmental–caused die-offs
- Design and evaluate short- and long-term wildlife adaptation approaches
- Conduct risk and vulnerability assessments to identify the most sensitive species, habitats and ecological functions to focus conservation efforts
- Develop information to define factors affecting species recovery under future climate scenarios
- Identify high priority research and technology needs
- Assess risks for fish hatcheries and other facilities located in areas of potential inundation from sea level rise
- Design protocols and methodologies best suited to evaluating the success of conservation strategies, objectives and actions

Timeline

- *Planning Phase 1: December 2009 to April 2010 – outreach and scoping*
  - Initial coordination with partner agencies including meetings in AK, WA, OR, CA and British Columbia
  - Begin identification of science and management needs
  - Begin inventory of climate change programs
- *Planning Phase 2: May 2010 to September 2010*
  - Continuation of actions included under Phase 1
  - Begin gap analysis of what information/data are needed to manage resources
  - Identify options for governance and goal setting
- *Initial LCC Implementation: October 2011*

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This fact sheet was produced by the USFWS. FWS is leading efforts to convene the NPLCC.

Left: Ebey's Bluff.
Photo by Ted Thomas, USFWS