

Columbia Coast Blueprint

A Landscape Conservation Design for the Lower Columbia River and
Outer Coasts of Oregon and Washington



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A. Background

The Lower Columbia River and adjacent coasts of Oregon and Washington contain a rich diversity of natural and cultural resources and is home to vibrant economies, communities that include the largest metropolitan area in the state, and cultures that depend on natural resources. Natural and cultural resources in this region are managed by a diversity of tribal sovereign nations, federal, state, and local government agencies, non-government conservation organizations, landowners, and other stakeholders with a keen interest in the sustainable management of these resources. Yet this region lacks a current, comprehensive, landscape-scale blueprint — referred to here as Landscape Conservation Design (LCD) — that can be used to focus and align conservation efforts to achieve landscape-scale goals in response to individual and cumulative stressors. These stressors include climate change, energy development, changes in land and water use practices, and a growing human population that is estimated to include 5.6 million people by 2050.

There is a growing need to understand how management decisions made by these various entities fit into a larger landscape-scale context of conservation goals. Conversely, there is a need to assess how landscape-scale and systems-level factors and stressors affect the consequences of sea level rise (erosion, changes in water quality and hydrology), water availability (freshwater flows), ocean acidification and its effects on food webs in estuaries, population growth and related land use changes, habitat migration, changes in phenology, habitat connectivity, migratory bird habitat, fish survival, hydrology (including management of the Columbia River hydro-system and navigation channel), invasive species spread, and forest composition and health. And it is critically important to understand how these stressors drive changes in and loss of habitats as well as habitat connectivity. A partnership-led landscape-scale assessment process that improves the overall quality of data and access to information needed to manage resources will increase the likelihood of aligning and achieving holistic conservation priorities through 2050.

This LCD can help achieve partners' missions, mandates, and goals while ensuring sustainability of ecosystem services in the context of a built environment with emerging energy needs. It is an integrated, collaborative, and holistic process that is grounded in the interdisciplinary science of landscape ecology, the mission-oriented science of conservation biology, and the art of design. One of the outcomes is a science-based, spatially-explicit product that identifies conservation targets of interest to partners, articulates measurable objectives for those targets; assesses current and projected landscape patterns and processes; and identifies a desired future condition, conservation and

development trade-offs, and implementation strategies. These outcomes can help meet both societal values and needs while maintaining ecological integrity and biodiversity.

This initiative complements the work of others within the geographic scope by developing a spatially-explicit conservation design that integrates the goals, conservation priorities, and values of a comprehensive suite of stakeholders.

B. Statement of Need

A broad community of interests seeks to achieve conservation goals for key focal species and habitats, realizing many entities have natural and cultural resource conservation authorities in the region and have conducted a significant amount of habitat restoration, protection and enhancement. Yet, there are no unified landscape-scale conservation blueprints or comprehensive planning efforts for the region that identify valued resources, consider the impacts of large-scale stressors on those resources, and incorporate “humanscape” elements—which is critical for this LCD given the Portland/Vancouver metropolitan area and the projected growth of this population by 2050. Few tools exist that allow practitioners to implement conservation initiatives at a variety of scales, and access to data and information is challenging and time-consuming. Therefore, we will plan/conduct a landscape conservation design exercise that identifies a suite of valued ecosystem services, assesses the impacts of individual and cumulative stressors, and creates a conservation blueprint to guide management actions to achieve desired landscape outcomes that integrate and address the tradeoffs of conservation, human, energy, infrastructure, and other needs.

C. Project Vision and Goals

Vision: Achieve a network of healthy, connected, ecosystems and working landscapes capable of providing a full suite of ecosystem services that can absorb, respond, and adapt to climatic changes and other key stressors through the use of collaborative, science-based strategies.

Goals:

- ❖ To foster a spirit of collaboration, communication, and continual learning among the communities and diverse interests within the study area.
- ❖ To create science-based, spatially explicit products that designate priority areas and the conservation actions necessary to achieve specified conservation goals and targets.
- ❖ To understand how climate change and other stressors will affect the region.

- ❖ To identify a diverse suite of intact, connected, functioning ecosystems and working landscapes capable of adapting to stressors and providing important ecological functions and services.
- ❖ To sustain healthy habitats for native fish, wildlife, and plant species and a suite of ecosystem services that benefit people.

D. Project Participants

This project will be successful because of:

- The more than 50 federal agencies, tribal sovereign nations, state agencies, local governments, nonprofit organizations, members of industry, landowners, community groups, citizens, and other entities (Appendix A) in the region that seek to collaborate on shared conservation priorities.
- Leadership provided by the Core Team, the North Pacific Landscape Conservation Cooperative (NPLCC), and dedicated stakeholders and interests.
- Strong facilitation to ensure effective communication and coordination.
- The development of a support team to provide “backbone support” to the effort.

Efforts will be made through the LCD process to maintain a streamlined efficient process, invite people and entities that may have an interest in the project, align with other regional planning processes, and identify others working on similar issues. Managing expectations in relation to scale will be critical throughout the process.

E. Guiding Principles

- ❖ **Iterative prototyping.** Creating a blueprint for conservation is complex, but it doesn’t necessarily need to be cumbersome. Through iterative prototyping, successive versions of the final products can be developed, with each new version delving into greater specificity, incorporating the latest science and communal understanding.
- ❖ **Build from existing efforts,** science, planning, and implementation efforts.
- ❖ **Collective impact** towards shared conservation goals.
- ❖ **Consider the needs of partners and partnerships.** This effort will support conservation priorities throughout the region.
- ❖ **Take a systems-level approach.**
- ❖ **Respect treaty and tribal trust responsibilities.** Include perspectives of western science and Traditional Ecological Knowledge of willing tribal sovereign nations.

- ❖ Be open and transparent with data and information.
- ❖ Support consensus decision making.
- ❖ Analyze the interface between different types of ecosystems.
- ❖ Recognize strengths, honor restraints, and promote both collaboration and inclusion of different perspectives.
- ❖ Implement the LCD in an adaptive management framework.
- ❖ Create opportunities for partners to identify and implement actions that achieve multiple benefits across multiple scales.

F. Project Approach

- ❖ Identify a management structure to be the backbone organization of the LCD.
- ❖ Convene interested parties.
- ❖ Delineate the geography.
- ❖ Use Open Standards¹ to Identify Shared Priorities, Conservation Targets, and measurable outcomes.
- ❖ Identify programs and initiatives/practices and other actions.
- ❖ Gather existing relevant studies, data, and information sources.
- ❖ Establish baseline reference points (historic conditions versus present)
- ❖ Assess current and integrate stressors to articulate desired future conditions.
- ❖ Identify current and planned projects, practices and other actions within the geography.
- ❖ Identify control areas and compare responses with project and control areas.
- ❖ Assess the outcomes from a diversity of approaches.

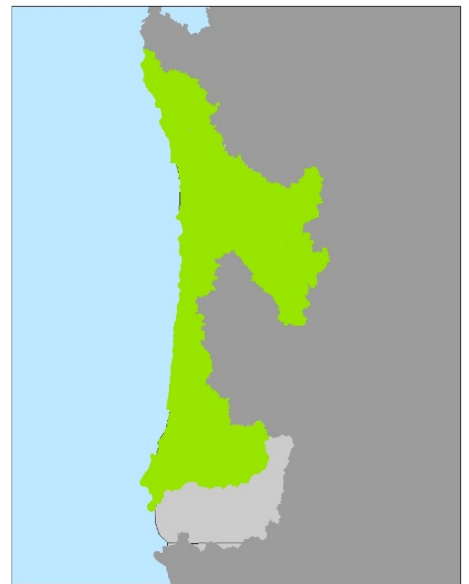


¹ The Open Standards for the Practice of Conservation is a multi-NGO and agency effort to find commonalities in approaching conservation problems at all spatial scales. More information on the Open Standards is here: <http://cmp-openstandards.org/>

- ❖ Identify scenarios for a spatial design for a sustainable landscape.
- ❖ Develop strategies for implementing spatial design including how to build on existing efforts, identify gaps not being met, and incorporate incentives into project approach.
- ❖ Introduced evidence-based adaptive management at landscape scale.
- ❖ Monitoring and evaluation.
- ❖ Focus on a few early and simple accomplishments.

F. Geographic Scope

The geographic scope of the LCD is based on characterizing an area that is adequate for understanding terrestrial and aquatic connectivity; has an actionable geography that is biologically relevant for species of concern; is socio-ecologically relevant and coherent; is downstream of the Bonneville Dam; excludes the Willamette Valley and other areas, such as Puget Sound in Washington, that have dedicated landscape conservation design projects underway; incorporates “unifying concepts”, such as maritime terrestrial ecological systems and coastal riverine estuaries (including their entire watersheds and the land-sea interface); shares common threats and stressors, and in particular, sea level rise and hydrological regime shifts, and has similarities in estuarine, terrestrial and riverine ecosystems.



G. Technical Approach (THIS SECTION IS BEING DEVELOPED BY THE LCD TECHNICAL TEAM – STAY TUNED! – bullets include guidance from Core Team)

At the core of the initiative is a set of shared interlinked objectives that will result in spatially explicit assessments of the current and potential future condition of ecosystems, and help resource managers make highly informed decision about resources of interest. Specifically, the Lower Columbia River and Oregon/Washington Coast initiative will involve a diversity of conservation partners to:

- ❖ Evaluate existing conservation lands and the anticipated effects of climate change and other drivers and stressors;
- ❖ Acquire, synthesize, and analyze data at fine and coarse scales;

- ❖ Assist resource managers to develop coordinated multi-scale action plans in appropriate geographic context by delivering clear, interpretable data and maps;
- ❖ Promote conservation at the ecosystem level and at system scales to increase the efficiency of conservation delivery across multiple jurisdictions; and
- ❖ Identify/validate conservation opportunity areas for land protection and restoration.
- ❖ Provide relevant examples of how climate change adaptation can be integrated into conservation planning and restoration design.
- ❖ Add language about ecosystem services.
- ❖ Designate a technical team to describe how the LCD might be implemented.
- ❖ GC. Add spatial and temporal scales.
- ❖ Figure out the core questions.
- ❖ Look at other ecosystems, e.g., grasslands.
- ❖ Identify data gaps.
- ❖ Tie in with ODFW's conservation strategy WDFW, ESA recovery plans.

H. What Decisions Can be Informed?

- ❖ Meaningful ways to assess projects and provide focus to restoration efforts.
- ❖ The development of a place or portal to exchange data and information.
- ❖ The creation of partnerships to leverage resources, focus additional research, and increase outreach to people living within the region.
- ❖ Decisions about places where biodiversity and wildlife habitats can be enhanced to support ecologically connected climate-resilient landscapes, including identifying and validating conservation opportunity for land protection and restoration.
- ❖ How and where can we achieve multiple, sometimes competing, conservation goals.
- ❖ Actions and strategies that can be taken and relevant examples of how to increase the adaptive capacity for climate change and other landscape-scale stressors within the geographic area through an integrated conservation planning and restoration design.
- ❖ A shared understanding of how climate change is affecting the region and actions and strategies that can be taken to increase the adaptive capacity for address landscape-scale stressors.
- ❖ Evaluate existing conservation lands and anticipated effects of climate change and other drivers and stressors.
- ❖ Acquire, synthesize, and analyze data at fine and coarse scales.

- ❖ Assist resource managers to develop coordinated multi-scale action plans in appropriate geographic context by delivering clear, interpretable data and maps.
- ❖ Promote conservation at the ecosystem level and at system scales to increase the efficiency of conservation delivery across multiple jurisdictions.

I. Outcomes/Deliverables/Products

- ❖ Assessment of current and historical natural resource conditions.
- ❖ Web-based Conservation Planning Atlas.
- ❖ A review of existing data sources, information, and data gaps.
- ❖ A set of shared strategies and actions for achieving shared conservation goals.
- ❖ A community of collaborators that develop a set of shared strategies and actions for achieving shared conservation goals.
- ❖ Demonstration projects that can be used to inform decision making.
- ❖ Tools for local governments and others.
- ❖ A shared community of practice of best management practices and lessons learned.
- ❖ Implementation strategies and policies across all landscape scales.

J. Project Plan

Timeline

- a. Phase I – Convene parties, clarify interests/intent/refine conceptual approach, develop detailed project plan. Produce problem statement and establish conservation goals and objectives (April 2016)

- b. Phase II-
 - i. Information gathering and sharing. Workshop or webinar presentations of relevant work conducted to date regarding:
 1. Conservation planning in the LCRE
 2. Climate change studies relevant to the LCRE
 3. Examples of Landscape Conservation Design Plans and/or Climate change adaptation plans developed elsewhere

- ii. Conduct assessments; develop adaptation strategies, and implementation options (December 2017)
 - 1. Create a conservation design
 - 2. Core areas
 - 3. Connectivity Zones
 - 4. Conservation priorities and management needs
 - 5. Restoration opportunities
 - 6. Best practices for non-conservation focused entities (e.g., Departments of Transportation, levee districts, etc.)
 - iii. Implement the design
- c. Phase III - Monitor, review, and revise the LCD (2018)
- i. Monitor the conservation network
 - ii. Evaluate the conservation network
 - iii. Adjust the conservation network

B. Budget

K. Letters of Support

L. Appendices

Appendix A. List of entities involved in the landscape conservation design initiative.

Federal Agencies:

- ❖ Bonneville Power Administration
- ❖ Bureau of Land Management
- ❖ National Park Service
- ❖ NOAA Fisheries
- ❖ NRCS
- ❖ PNNL, Marine Sciences Lab
- ❖ US Army Corps of Engineers
- ❖ US Environmental Protection Agency
- ❖ US Fish and Wildlife Service
- ❖ US Forest Service
- ❖ US Geological Survey (Northwest Climate Science Center)

Tribal sovereign nations:

- ❖ Confederated Tribes of the Colville Reservation
- ❖ Columbia River Intertribal Fish Commission
- ❖ Cowlitz Tribe
- ❖ Coquille Tribe
- ❖ Quinault Indian Nation
- ❖ Yakama Nation

State Agencies:

- ❖ Lower Columbia Fish Recovery Board
- ❖ Northwest Power and Conservation Council
- ❖ Oregon Department of Fish and Wildlife
- ❖ Oregon Department of Land and Conservation Development
- ❖ Oregon Watershed Enhancement Board
- ❖ South Slough National Estuarine Research Reserve
- ❖ Washington Connectivity Partnership
- ❖ Washington Department of Ecology
- ❖ Washington Department of Fish and Wildlife

- ❖ Washington State Recreation and Conservation Office

Local government:

- ❖ Metro

Partnerships:

- ❖ Columbia River Estuary Study Taskforce
- ❖ Lower Columbia River Estuary Partnership
- ❖ Pacific Bird Habitat Joint Venture
- ❖ Pacific Marine and Estuarine Fish Habitat Partnership
- ❖ Tillamook Estuaries Partnership

Non-governmental organizations:

- ❖ Audubon Washington
- ❖ Ducks Unlimited
- ❖ Ecotrust
- ❖ NatureServe
- ❖ Pinchot Institute for Conservation
- ❖ The Nature Conservancy
- ❖ Wetlands Conservancy
- ❖ Wild Salmon Center

Industry:

- ❖ Aardscan Biological and Environmental
- ❖ Adaptation/Insight
- ❖ AECOM
- ❖ Another Set of Eyes
- ❖ Ballard Ecological Consulting
- ❖ David Evans and Associates
- ❖ EcoWest
- ❖ Environmental Science Associates
- ❖ Natural Resource Consulting
- ❖ PC Trask and Associates

Land Trusts:

❖ Columbia Land Trust

Academia:

❖ University of Washington