



Crown Managers
Partnership

2021-2025

STRATEGIC CONSERVATION FRAMEWORK

Connecting Landscapes & People

crownmanagers.org

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Figure 1. Crown of the Continent Ecosystem connects Montana, British Columbia, and Alberta.

LAND ACKNOWLEDGMENT

The Crown of the Continent Ecosystem is an iconic landscape. As we work to connect the lands, waters, and life in this region, we recognize they were not always owned and divided as they are today. We thank all Indigenous Peoples who call this land home for their continuing stewardship. We honor their sovereignty and respect their unique connections and knowledge of these places. We are committed to being more conscientious and inclusive by working closely with Indigenous Peoples who call the Crown of the Continent home, to create a just and equitable future.





About the Crown of the Continent Ecosystem

The Crown of the Continent Ecosystem (CCE) is one of North America’s most iconic and intact landscapes. Nearly 18 million acres in size, it stretches across the international border of the United States (US) and Canada (Figure 1). The Great Plains and the Rocky Mountains converge in the CCE, creating a landscape of vast, sprawling prairies and prominent, jagged peaks. About 11,500 years ago, the land was carved by ancient, retreating ice sheets. The ancestors of Indigenous Peoples were among the first to live, hunt, fish, and gather on the landscape. Over 10,000 years later, Indigenous stewardship and knowledge persists.

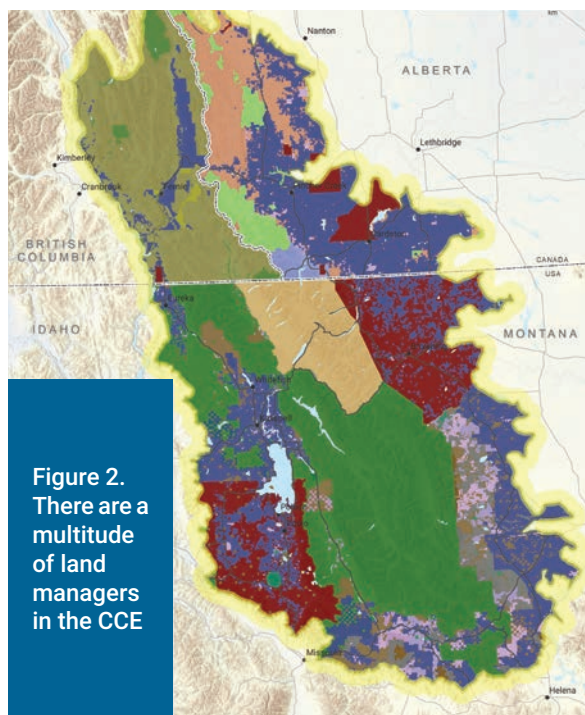


Figure 2. There are a multitude of land managers in the CCE

Much of the CCE is still in a natural, undeveloped state. Its spectacular landscapes are home to the entire suite of North America’s large carnivores, as well as the greatest plant and aquatic biodiversity in the Rocky Mountains. Waters originating in the CCE spill in three different directions across the North American continent, reaching millions of people downstream who rely on the CCE’s clean water for drinking, irrigation, and recreation. At the CCE’s core is the world’s first International Peace Park (Waterton–Glacier) and the third-largest wilderness area in the continental US (Bob Marshall Wilderness Complex).

Though the CCE contains large stretches of undeveloped land, it is fragmented by boundaries and borders occupied by Tribes and First Nations, two countries, two provinces and one state, and private lands (Figure 2). A multitude of land managers means a wide range of missions, mandates, policies, and access to resources. With a variety of jurisdictional players in the CCE, there is a risk of over-allocating resources or managing at cross purposes.

Often considered a symbol of the ‘last, best west’, the CCE is seeing increasing pressure from human activity: urban and rural residential expansion, increased and diversified recreational use, resource use and extraction demands, and the physical infrastructure needed to support all of these changes. The largest city on the borders of the CCE, Calgary (pop. 1.5 million, 2020), and the largest city within the CCE, Kalispell (pop. 25,000, 2020), have doubled in size in the last 30 years. On top of all this, the CCE is at great risk from climate change, as it is warming at two to three times the rate of the global average. The effects of climate change in the CCE introduce greater uncertainty into land management challenges, including important issues such as wildfire and water supply.

The CCE is nevertheless recognized as a resilient landscape with its large, connected lands and waters, and diversity of life. To maintain this uniquely intact ecosystem and enhance its resiliency in the face of inevitable change, collaborative stewardship is needed.



About the Crown Managers Partnership

VISION

To transcend borders and collaboratively care for life, lands, and waters in the Crown of the Continent Ecosystem.

MISSION

We foster collective stewardship of the Crown of the Continent Ecosystem by collaborating on common issues, sharing resources, & exchanging knowledge.

WHO WE ARE

The Crown Managers Partnership (CMP) is a voluntary group comprised of federal, state, provincial, Tribal, and First Nation land and resource managers and universities in Montana, Alberta, and British Columbia. We recognize that no single agency has the mandate or resources to wholly address common ecological challenges throughout the CCE. We therefore work together across borders to tackle shared ecological challenges and concerns.

Poised to embark on our third decade of collaborative stewardship, the CMP continues to foster collective, landscape-scale management guided by science and culture. We are inspired by the understanding that water, fish, and wildlife do not consider borders, and shared resources require shared management. Also, that Americans, Canadians, and sovereign Indigenous nations can work together to conserve this shared landscape for generations to come.

Initially convened in 2001 by resource managers from the Province of Alberta, British Columbia, and Waterton-Glacier International Peace Park, the CMP has adapted in the face

of evolving science and new challenges. Our efforts have grown beyond our initial convening to establish a common transboundary database of ecological metrics in the CCE. With an expanded partnership and a greater understanding of the CCE landscape and how it is evolving, we continue to address emerging issues like invasive species, five needle pine restoration, and climate change.

The CMP is diverse and flexible in its actions. We play both lead and supporting roles on landscape enhancement projects, lending support to projects led by other parties or catalyzing formal partnerships. The CMP is not a legal entity. Rather, our governance and decision-making operates within the confines of the CMP as a voluntary partnership; we do not manage lands directly, the agencies that comprise the partnership do. In all cases, we seek management outcomes that meet the needs and aspirations of the CMP agencies and our project partner organizations. Most importantly, we seek to build awareness of ecological issues, share information and best practices, and support decision making that aligns jurisdictions' shared management objectives.



Governance of the Crown Managers Partnership

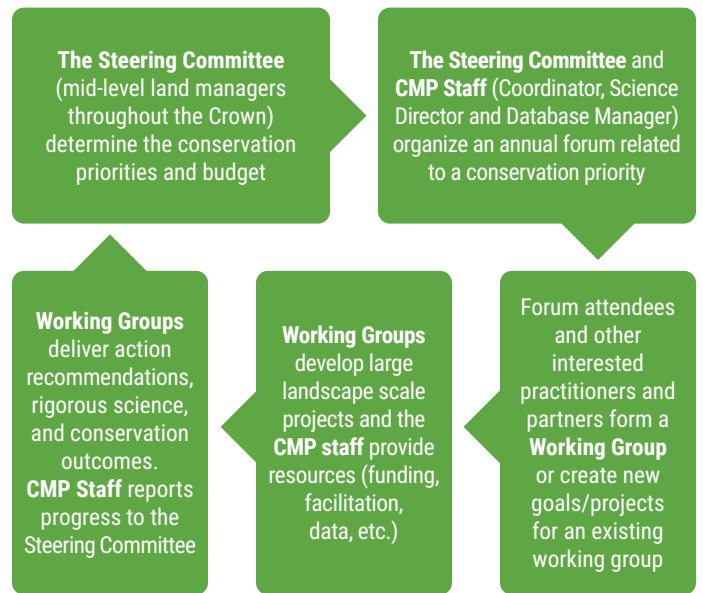
By working across our boundaries and borders, the CMP's collaborative partnership enhances the individual efforts and resources of our partners with improved institutional capacity and more effective, far-reaching conservation outcomes on common priorities. Together, we work toward improving shared resources of concern on the landscape, which we refer to as our Conservation Priorities (pg 10).

Representatives from provincial, state, federal, Tribal, and First Nation land management entities as well as universities sit on our Steering Committee. The Steering Committee provides strategic direction for the CMP. Funding for CMP projects comes from individual agencies who collectively pool funds to support collaborative projects that benefit every agency. Support services, including fiscal management, have been provided by the Waterton Biosphere Reserve Association since 2016. Our Steering Committee is resilient and reliable; for two decades, agency participation has remained constant even though individual representatives from those agencies have changed over time.

We accomplish on-the-ground action through our Working Groups, which are associated with each of our Conservation Priorities. Our Working Groups are comprised of natural resource management practitioners, and can include Steering Committee members, academic participants, local and regional partners, and other key resource staff. Working groups identify objectives and priority projects and engage in partnered efforts to achieve project-based work. CMP staff, which includes a Coordinator, Science Director, and Database Manager, provide the Working Groups with the resources and facilitation they need to achieve their objectives and projects.

In addition to convening experts via Working Groups, we hold annual forums and various workshops. Agency and industry representatives, non-governmental organizations, professors, students, and members of the public are all welcome and

encouraged to attend the forums. With the CMP founded on collaboration and inclusion, we've worked to reduce barriers to attendance. Since our first forum in 2001, over 100 different agencies, Tribes, First Nations, organizations, and universities have engaged in these forums. Partners from across the landscape gather to share learnings and collectively strategize on priorities and projects. Our focus remains on inter-agency collaboration and communication, and amplification of individual actions through collective partnership. Our goal is to collaboratively advance the Conservation Priorities as outlined in our Strategic Framework.





Alignments and Influences

While the CMP produces many concrete deliverables, such as publications, workshops, forums, maps, and models, much of our value as a voluntary partnership comes from the less tangible connections and influences we build through our work. Here are some examples of those impacts that are more difficult to measure but have had positive effects on the CCE.

- ✦ Simultaneous contact with multiple agencies, streamlining and strengthening communication and collective calls for data.
- ✦ CMP-generated information (data, shapefiles, publications, models, etc.) provide common information at a landscape scale and are used in science publications, research, and projects.
- ✦ Expanded regional and international awareness around the issue of Aquatic Invasive Species (AIS). There are now various types of AIS efforts inspired by the CMP's work—ie. the Flathead Lake Biological Station monitoring program and Alberta AIS prevention program, which have expanded the State of Montana and the Flathead Basin Commission's early response.
- ✦ The CMP Invasive Plant forum and climate models helped the Southwest Invasives Managers (SWIM) in Alberta gain momentum.
- ✦ The CMP Native Salmonid Working Group influenced creation of new projects (such as Waterton Lakes National Park's "Conserving Waterton's Aquatic Communities" Conservation and Restoration project) and provided a ready-made network for project biologists to connect.
- ✦ The CMP's Pilot Whitebark Pine Restoration Strategy was adopted by the Whitebark Pine Ecosystem Foundation and its partners to aid in their efforts to assist agencies in identifying core restoration areas across the nation.
- ✦ CMP amplified the importance of landscape connectivity within the CCE, influencing establishment of protected areas within the Castle area of Alberta (Castle Provincial Park and Castle Wildland Provincial Park).
- ✦ The CMP's transboundary collaborative model serves as a success story for other large landscape groups throughout the world.
- ✦ We elevated the profile of the Crown of the Continent region, resulting in the inclusion of the CCE as a focal landscape amongst newer, emerging US federal initiatives including America's Great Outdoors (2009), Landscape Conservation Cooperatives (2010) and the Resilient Lands and Waters Initiative (2015).



Key Accomplishments Crown Managers Partnership

2001

- 💡 [Inaugural Crown Managers Partnership Forum](#) in Cranbrook, B.C. to discuss promoting ecological integrity on a large landscape scale. CMP formed as a voluntary management partnership spanning the US-Canada border

2002

- 💡 [CMP Forum: Cumulative Effects](#) (Whitefish, MT)

2003

- 💡 [CMP Forum: Conservation Education](#) (Pincher Creek, AB)

2004

- 💡 [CMP Forum: Wildfire](#) (Cranbrook, BC)

2005

- 💡 [CMP Forum: Invasive Plant Management](#) (Kalispell, MT)

2006

- 💡 [CMP Forum: Watershed Management & Partnerships](#) (Lethbridge, AB)

2007

- 💡 [CMP Forum: Ecological Health in the Crown](#) (Cranbrook, BC)

2008

- 🌐 CMP develops the Ecological Health Project, our first framework for identifying shared management priorities across the CCE
- 💡 [CMP Forum: Large Carnivores](#) (Somers, MT)

2009

- 📖 Publication: *Invasive Plants of the Crown of the Continent*, 1st Edition (10,000 copies)
- 🌐 Launched initiative to develop CCE-wide database with seamless data layers and maps across the CCE
- 💡 [CMP Forum: Biodiversity](#) (Pincher Creek, AB)

2010

- 🌐 Initiated partnership with the Landscape Conservation Cooperatives, a program launched to better integrate science and management to address climate change and other landscape scale issues; received support to prepare a strategic plan and collect data at the landscape scale
- 💡 [CMP Forum: Climate Change](#) (Fernie, BC)

2011

- 📖 Publication: *Invasive Plants of the Crown of the Continent, 2nd Edition* (6,000 copies)
- 💡 [CMP Forum: Aquatic Invasive Species](#) (Polson, MT)

2012

- 📖 Publication: *Aquatic Invasive Species Bow-Tie Risk Assessment*, Alberta, CA
- 🌐 Project: Pilot Aquatic Invasive Species Prevention Strategy developed and implemented in the Alberta portion of the CCE. Led to creation of a 1-800 number for reporting/information and a long-term inspection and response program still in place as of 2020.
- 💡 [CMP Forum: Connections to the Land—Tribes and First Nations in the Crown](#) (Lethbridge, AB)

2013

- 📖 Publication: *Crown of the Continent Aquatic Invasive Species Guidebook*, 1st Edition (10,000 copies)
- 🌐 Modeling Project: [CCE-wide Grizzly Bear occupancy](#)
- 💡 [CMP Forum: Large Landscapes— Working Across Boundaries](#) (Cranbrook, BC)

2014

- 📖 Publication and Workshop: [Taking Action on Climate Change Adaptation: Piloting Adaptation Strategies to reduce Vulnerability and Increase Resilience for Native Salmonids in the CCE](#)
- 🌐 Modeling Project: [Multi-species Connectivity in the CCE](#)
- 💡 [CMP Forum: Managing for Climate Change](#) (Missoula, MT)

2015

- 🌐 Crown of the Continent identified as one of seven “Resilient Landscapes” under President Obama’s Resilient Lands and Waters Initiative



- 📄 CMP launches [CCE-wide transboundary data archive](#) on ScienceBase in partnership with US Geological Survey and US Fish & Wildlife Service
- 🌐 [Modeling Project](#): climate change vulnerability/habitat suitability for 10 terrestrial invasive plant species
- 📄 Publication: *An Overview of the Status and Management of Non-native Invasive Plants in the Crown of the Continent—Results of a Jurisdictional Survey*
- 🌐 [Mapping Project](#): CCE-wide Human Modification Index
- 💡 [CMP Forum](#): Climate, People, and Terrestrial Invasive Species (Lethbridge, AB)

2016

- 💡 [CMP Forum](#): Five Needle Pines (Fernie, BC)
- 💡 Hi5 (Five Needle Pine) Working Group 1st Annual Meeting (Whitefish, MT)
- 🌐 Modeling Project: Probability of occupancy for [Whitebark](#) and [Limber Pine](#) in the CCE
- 📄 Publication: [Predictive distribution modeling for Whitebark and Limber Pine](#)
- 📄 Publication: [Five Needle Pine Data Management Plan](#)
- 📄 Publication: [Five Needle Pine Database Needs Assessment](#)

2017

- 💡 [CMP Forum](#): Improving Drought Resilience (Choteau, MT)
- 💡 Hi5 Working Group 2nd Annual Meeting (Missoula, MT)
- 📄 Publication: [Guidelines and Best Practices for Managing Fire in Whitebark Pine Stands in the CCE](#)
- 📄 Publication: [Beneficial Management Practices for Whitebark and Limber Pine Guidance Document](#)
- 🌱 On the Ground: Seed collection from grandmother trees led by Confederated Salish & Kootenai Tribes (ongoing)
- 💡 Meetings: Convened CCE Terrestrial Invasive Plants (TIPs) Community of Practice (ongoing)
- 💡 [Upper Columbia Conservation Commission](#) Participation (on-going)

2018

- 💡 Hi5 Working Group 3rd Annual Meeting (Kalispell, MT)
- 💡 [CMP Forum](#): Native Salmonids (Lethbridge, AB)
- 📄 Publication: [Action on Recovery: Native Salmonid Recovery in the CCE](#)
- 📄 Publication: [Conservation Playbook 1.0 and 2.0](#)
- 🌐 Modeling Project: [Native Trout Vulnerability in the CCE—Predicts Future Habitat](#)
- 🌐 Modeling Project: Terrestrial Invasive Species Habitat Suitability

2019

- 💡 Hi5 Working Group 4th Annual Meeting (Pablo, MT)
- 📄 Publication: [Crown of the Continent Aquatic Invasive Species Guidebook](#), 2nd Edition (8,000 copies)

2020

- 💡 Hi5 Working Group 5th Annual Meeting (virtual)
- 🌐 [Whitebark Pine Restoration Strategy Pilot](#): assessing conservation value of Whitebark Pine stands and prioritizing restoration actions. (Glacier National Park, Confederated Salish Kootenai Tribes, and Flathead National Forest)
- 🌐 Mapping Project: Aquatic Invasive Species maps for the Flathead Lake Biological Station to use in middle school curriculum across the Flathead Valley
- 🌐 Mapping Project: [Fire History throughout the CCE](#)
- 🌐 Modeling Project: Lake vulnerability to Dreissenid Mussel infestation (phase 1)
- 💡 Convened stakeholders to develop a participatory landscape conservation design

2020



Our 2021-2025 Conservation Priorities

Our Conservation Priorities represent the shared concerns and values of land management agencies across the CCE landscape. The Conservation Priorities were collaboratively identified at the 2014 CMP forum on Climate Change and have been updated by the Steering Committee and Working Groups to set the course for our work in the coming years. The CMP will work to understand shared values and stressors on a large landscape scale and ensure their integrity or treatment through concrete action. All of these priorities were created with the consideration of climate change and its effects now and into the future.

Five Needle Pines

Five needle pine forests (Whitebark Pine and Limber Pine) play an important and unique ecological role by shading high mountain snowpacks, which reduces erosion and helps regulate downstream flows. The pines' nutritionally dense seeds serve as a critical food source to birds, small animals, and large mammals including grizzly bears. Increasing the pace and scale of five-needle pine restoration efforts will assist their resiliency to changing disturbance regime conditions.

Stressors to the priority: an exotic pathogen (white pine blister rust), native pine beetle epidemics, exclusion of fire, wildfire, and climate change (which exacerbates the effects of the other stressors).

Goals for the next five years:

- Identify high priority areas for five needle pine restoration in the CCE
- Coordinate five needle pine restoration and conservation efforts among CCE partners
- Develop a CCE-wide learning network where partners can exchange five needle pine information and leverage funding opportunities.

Planned future projects: CCE Five Needle Pine Restoration Strategy: Expand the Pilot Strategy (see Key Accomplishments 2020), for all lands in the CCE to identify core restoration areas for both Whitebark and Limber Pines. Based on expansion results, a comprehensive CCE-wide restoration strategy will be developed, including implementation and monitoring of the strategy.





Fire on the Landscape

Wildfire is one of the most important landscape disturbances in the CCE. Fire is an integral part of the maintenance and function of ecological systems, influencing vegetation composition and structure, productivity, carbon storage, water yield, nutrient retention, and wildlife habitat. Fire exclusion management practices have influenced fire regimes (rates, intensity, extent) in lower elevation areas where fire was historically more frequent. In addition, climate driven changes have and will continue to affect fire behavior, severity, frequency, and size. With the coordinated and strategic use of beneficially managed wildfire and prescribed fire, the health of water, soil, and vegetation can be maintained or improved.

Stressors to the priority: climate change, public perception of prescribed burns, large destructive wildfires that threaten infrastructure, historic and ethnographic resources and sensitive natural resources that are not fire tolerant.

Goals for the next five years:

- Conduct large-landscape scale research that investigates the benefits of recurring wildfires and prescribed fire
- Create and/or consolidate community education and outreach efforts to gain support for wildfire actions that are beneficial to both the landscape and the general public's health and wellbeing
- Establish meaningful connections between recurring wildfire/prescribed fire and economic health
- Address the uncertainty of wildfire as it relates to climate change

Planned future projects: Host a 2021 Forum focused on Fire



Invasive Species, Insect and Disease Risk

Non-native, invasive species do not recognize boundaries and borders. Unmanaged invasive species threaten the ecosystem, culture, livelihood, and health of those within the CCE. Combating invasive species in the CCE is complicated because it is managed by a mosaic of land managers, all with different invasive species laws and policies, funding, and other resources. It is imperative to work in unison to address both terrestrial and aquatic invasive species issues at the landscape level.

Stressors to the priority: increased human recreation and tourism, climate change, wildfire, increased trade and transport

Goals for the next five years:

- Track new invasive species, forest insects/disease detections throughout the CCE (and nearby/adjacent areas)
- Provide education and outreach in the CCE on emerging threats
- Coordinate and assist management agencies with monitoring, outreach, and support as needed

Planned future projects: Publication of an updated Terrestrial Invasive Plants Guidebook, develop risk assessment models for invasive species

Native Salmonids

Westslope cutthroat trout and bull trout—two native salmonid species—hold significance environmentally, historically, and culturally. Because of their need for cold, clean, pristine waters, westslope cutthroat and bull trout are good indicators of stream health and ecosystem resilience. The CCE is one of the last strongholds for these important native fish.

Stressors to the priority: climate change, habitat loss and fragmentation, loss of genetic diversity, and competition with non-native species

Goals for the next five years:

- Expand and share an interactive web tool that predicts shifting native salmonid habitat and guides restoration plans
- Replicate successful climate adaptation actions for priority native salmonid conservation populations and their habitats
- Coordinate native salmonid restoration strategies at multiple spatial scales to maximize the impact of on-the-ground efforts
- Develop a CCE-wide learning network where partners can exchange information and create an adaptive management framework for native salmonids

Planned future projects: Further develop and expand the Native Trout interactive spatial tool to the Greater Yellowstone area (see Key Accomplishments 2018); host workshops to teach managers how to use the new interactive spatial tool



Fish & Wildlife Habitat Integrity and Connectivity

The CCE is home to some of North America's most iconic wildlife: wolverine, elk, bull trout, westslope cutthroat trout, Canada lynx, and grizzly bear. In order to access the resources they need to survive and maintain genetically diverse populations, these wildlife species require the ability to move safely through high quality, connected habitats.

Stressors to the priority: climate change (including reduced snow cover to support denning and cold water for fish throughout summer months), habitat loss and fragmentation, invasive species, anthropogenic development/urban growth, extractive resource development, agricultural practices



Goals for the next five years:

- Collaborate with managers and researchers in the CCE to model connectivity, so we may better understand the long-term impacts of climate change and barriers to corridor connectivity
- Replicate successful climate adaptation actions—in deep partnership with Tribes and First Nations—that may help sustain core wildlife habitat, maternal denning habitat, and connectivity
- Coordinate habitat restoration strategies for forest carnivore and native salmonid species
- Develop a CCE-wide learning network where partners can exchange information

Planned future projects: Host a Forum focused on connectivity; Develop Crown-wide models to support identification of corridors and enhance connectivity for fish and wildlife

Watershed Integrity and Resilience

Water truly is the lifeblood of the CCE. The glaciers, rivers and streams of the CCE feed the headwaters of three of North America's great watersheds: the Columbia, Missouri and Saskatchewan. Given the abundance and geographic distribution of water throughout the CCE, watershed integrity is inherently linked to all of our other conservation priorities (ie, prevention of aquatic invasive species and salmonid habitat restoration). Given the role water plays in building ecological integrity across the CCE, we consider this priority to be an integrator across many of our landscape priorities.

Stressors to the priority: climate change, anthropogenic development/urban growth, fragmentation, invasive species, extractive resource development, agricultural practices, hydrologic regulation



Goals for the next five years:

- Establish the process and landscape-scale metrics for integrating watershed integrity and resilience into the strategies for our other conservation priorities
- Update our snowpack analysis and further relevance of using historical climate data to rank watershed resilience to climate change
- Develop landscape-scale data layers that allow coarse-scale evaluation of CCE-wide watershed integrity and resilience

Planned future projects: Compile data and mapping for impaired waters and impoundments across the CCE and overlay with Native Salmonid habitat; host a forum on Watershed Integrity and Resilience



Uniting all Conservation Priorities: Landscape Conservation Design

Ensuring a resilient, connected landscape that supports healthy ecosystems and human communities



The CMP and a mosaic of stakeholders in the CCE have developed outstanding conservation programs focused on specific species and ecosystems (e.g., five needle pines, native salmonids). However, a landscape consists not just of a single conservation priority, but rather of a multitude of features functioning together. To address this, the CMP has launched a five-year project to integrate all of the amazing work in the CCE into a single conservation design.

The CMP is bringing together the great people, science and planning across the CCE into a unified landscape-scale conservation ‘design’ (LCD) that considers not only wildlife and ecosystems, but cultural, social and economic priorities as well. Together, partners across the CCE will envision what conditions are essential for a healthy future landscape, and what stressors or changes may limit their conservation. By feeding high quality, CCE-wide data into an optimization model, we can determine where on the landscape it is most effective to concentrate effort and resources. The resultant “road-map,” which considers multiple conservation priorities on the landscape simultaneously, can be used by agency managers to guide landscape level conservation and restoration efforts throughout the CCE.



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Page 13: Tim Rains, NPS (grizzly bear); Parks Canada (Watershed Integrity)

Page 14: Jim Elser, UM—FLBS (landscape header), Ian Dyson (storm), Jearvin Bosi (bighorn and lake)

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How to Get Involved

Attend our workshops, annual forums, and webinars

Join our Working Groups

Inquire about your agency joining our Steering Committee

Sign up for our newsletter at our website (crownmanagers.org)



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