OKANAGAN MOUNTAIN – K'NMALKA

WILDLIFE CORRIDOR ACTION PLAN

syilx Okanagan Nation Alliance
INDIGENOUS PEOPLES OF THIS LAND

OCCP
OKANAGAN COLLABORATIVE CONSERVATION PROGRAM

CONTENTS

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Okanagan Mountain – K'nmalka Wildlife Corridor Action Plan, 2023

OVERVIEW

This Action Plan is built on the understanding the Syilx Okanagan People have stłtałt (inherent rights) and responsibilities to care for tmix^{w} (all living things).

The plan outlines how the Syilx Okanagan Nation, and its non-Indigenous neighbours and partners can collaborate to promote increased unity on shared goals to ensure tmix^{w} is respected. Recognizing the diverse audience for this action plan, and acknowledging readers will have different levels of understanding of Syilx values and knowledge, the Plan includes educational actions to create a broader awareness of Syilx Okanagan rights. It also includes stewardship actions to uphold the practice of Syilx Okanagan rights and responsibilities to care for tmix^{w} in Syilx Okanagan Territory.

Since time immemorial, the Syilx Okanagan People have stewarded the lands according to their laws, customs, values, governance structures, and principles. Their captik^{w}ł (creation stories) provide guidance on how to live on the land in harmony with tmix^{w}.

While developing this plan, Syilx hunters and Community Members shared stories of how their ancestors lived sustainably on the land, and of a deep respect and connection to water, land, and all living things. They told of their ability to once move freely across the entire territory to hunt and gather food and medicines. In the central Okanagan, there was an abundance of deer, moose, caribou, and elk; food plants, berries, and medicines near village sites; salmon and trout in the creeks and lakes; and wetlands with duck eggs to eat and reeds for building homes, baskets, and makeshift boats. They also shared knowledge of an archaeological site of a deer fence used for hunting that dated back 4,000 years ago.

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OVERVIEW CONTINUED

Shortly after the arrival of the first settlers, the wildlife in the valley began to decline. Bounties were placed on grizzly bears, which decimated their numbers. Deer, elk, and moose were culled to make way for cattle grazing. Habitat loss and over-hunting eliminated caribou from the region. Dams obstructed salmon from returning to the lake. Wildlife was further decimated in the 1930s and into the 1950s as bounties were placed on wolves, porcupines, coyotes, and cougars.

As more settlers arrived, loss of habitat to housing and agricultural development, logging, road building, recreational areas, and the suppression of cultural burning practices also impacted not only wildlife but the plants for medicines, teas, berries, and root plants. Sp'iǩəm (bitterroot), huckleberries, elderberries, siya? (Saskatoon), and other plants integral to Syilx diet and culture were significantly impacted and continue to be lost. All these cumulative impacts since colonization have resulted in the loss of food sources, fractured transfer of cultural knowledge, and loss of language.

As natural areas in the Okanagan region continue to be fragmented, degraded, and lost to agricultural development, resource extraction and urban sprawl, a coordinated approach is urgently required to address the harmful impacts of the colonial legacy on wildlife and nature. Advancing this collaborative Action Plan will continue to support Indigenous partnerships for the Syilx Okanagan Nation as they assert their title, rights and interests on the Territory which includes their members guiding the implementation of the Action Plan.

EXECUTIVE SUMMARY

An important opportunity exists to maintain habitat connectivity for tmix^{w} (all living things) in the low elevations of the Central Okanagan Valley — a threatened 65 km-long corridor connecting Okanagan Mountain Provincial Park and k'nmalka (Kalamalka Lake Provincial Park area). The Okanagan Nation Alliance (ONA) and Okanagan Collaborative Conservation Program (OCCP) worked with many partners to prepare this five-year Corridor Action Plan. Syilx and local expert knowledge, gathered through workshops and interviews with Syilx hunters and community members informed the Action Plan.

Rapid development in the Okanagan Valley continues to reduce and fragment natural areas at low elevations, cutting off remaining pathways for wildlife movement. The valley contains a crucial link through British Columbia's remaining grasslands, shrub-steppe, and low elevation dry forests, connecting habitats from Washington State into the Dry Interior British Columbia priority place. It is home to more rare, threatened, and endangered species than anywhere else in the province, and has one of the nation's densest concentrations of species at-risk.

The Okanagan Mountain – k'nmalka Wildlife Corridor provides opportunities for animals to move across the landscape to find food, shelter, water, and mates; to migrate with the changing seasons, and to adapt to shifts in ecosystems resulting from climate change.

Protecting the natural areas between the parks also supports our quality of life by providing access to food, clean air, healthy soil, and drinking water. This area helps moderate impacts of climate change by reducing groundwater evaporation and soil loss, providing natural flood control, moderating CO2 levels, and acts as a natural buffer for wildfires.

The actions aim to centre Syilx principles, laws, and protocols in all connectivity planning efforts, incorporate climate impacts into conservation planning, improve land use planning and policy to protect and restore the Corridor, address cumulative effects on connectivity, help farmers and ranchers with environmental stewardship, and educate people on the value of landscape connectivity.

This plan is the first of its kind in the central Okanagan and can serve as a pilot program for the protection of corridors and biodiversity across public and private lands here and beyond, to other regional, provincial, and international corridor initiatives.

INTRODUCTION

PURPOSE OF THE CORRIDOR ACTION PLAN

This Corridor Action Plan provides a set of 15 actions to connect and protect wildlife, habitats, and all living things (biodiversity) between Okanagan Mountain Provincial Park and k'nmalka (Kalamalka Lake Provincial Park area). See map, page 7.

This Corridor is the last remaining contiguous low elevation route for wildlife movement on the east side of Okanagan Lake connecting 65 kms of habitat between two provincial parks. Implementation of the Action Plan will require the ongoing support of ONA and OCCP to facilitate the actions in collaboration with the many partners who contributed to the plan.

The actions in this plan will ensure that wildlife can migrate and disperse, safeguard genetic flow between populations, boost biodiversity and resilience in degraded ecosystems, increase food security, and help species adapt to the changing climate. Protecting the Okanagan Mountain – k'nmalka Corridor will also help maintain the ecological integrity of the larger grassland corridor that extends from Washington State to the Interior of British Columbia (BC).

OKANAGAN MOUNTAIN – K'NMALKA WILDLIFE CORRIDOR

CREATING THE ACTION PLAN

The Action Plan builds on the work undertaken since 2017 by the Planning for Ecosystem Connectivity in the Central Okanagan initiative, by the RDCO, UBC, and OCCP which identified and refined the Corridor alignment through Circuitscape modelling and expert input (Parrot et. al, 2019).

The Action Plan supports the strategic directions of the Biodiversity Conservation Strategy for the Okanagan Region[1] and its supporting document — *Designing and Implementing Ecosystem Connectivity in the Okanagan*[2]. The Action Plan also builds on the successes of the RDCO, Westbank First Nation and the Central Okanagan Land Trust in protecting lands along the Corridor.

The Action Plan was developed from information gathered through 10 workshops and one-on-one interviews with Syilx Community Members.

The workshops were facilitated by Ecoscape Environmental Consultants Ltd. and the OCCP and included 52 individuals representing 30 organizations (see Acknowledgments, page 34). Seven themes were covered in the workshops including land securement, land use planning, stewardship, education/outreach, restoration, nature-friendly agriculture, and research priorities. The participants shared their knowledge and insights to prioritize actions for the protection and conservation of the lands in and around the Corridor.

A cultural researcher from Okanagan Nation Alliance also conducted nine interviews with Syilx hunters and Community Members to gain a better understanding of wildlife movement and areas for gathering plants and medicines along the Corridor. The information gathered was drawn from personal place-based experience and provided important insight into the changes that have taken place on the land, and provided direction for the Plan in its actions.

1 https://a100.gov.bc.ca/pub/acat/documents/r42389/BiodiversityStr_1409784064471_9783578053.pdf

2 https://okcp.ca/images/resources/land-use-planning/Designing-and-Implementing-Ecosystem-Connectivity-in-the-Okanagan-2014.pdf

CONNECTIVITY FOR BIODIVERSITY

The Corridor, with its distinct biological communities, provides the link to natural areas that support some of the highest concentrations of at-risk species in Canada.

The Okanagan region contains large areas of BC's remaining grasslands, shrub-steppe, and low elevation forests with the largest groupings of national rare plants, along with the greatest diversity of migratory bird species, in BC and Washington State.

The Corridor is essential for helping wildlife move across the region to find food, shelter, water, and mates. Connectivity prevents the populations from becoming isolated from one another and is essential for the recovery of at-risk species. Animal movement between populations spread across the landscape ensures genetic diversity and the long-term survival of species and is important for repopulation of areas after major disturbances such as forest fires and climate change-induced range shifts. Species also need to move seasonally from high to low elevation (summer and winter range), and they need to find refuge in and near water sources in times of extreme heat.

The more connected the landscape is, the more diversified and resilient the ecosystems will be. An ecosystem with a wide variety of species copes better with threats from pollution, climate change or human activities, than an ecosystem with limited number of species with large populations.

With areas of only 113 and 32 km^2, Okanagan Mountain Provincial Park and Kalamalka Lake Provincial Park are too small to support the needs of many of the animals inhabiting the region. Many large-ranging species require connections between the parks and surrounding natural environments for survival. For example, black bears and wolves have homes ranges of 150 and up to 1000 km^2 (Western Wildlife Outreach). The Corridor and the land upslope of the Corridor link habitat for grizzly bears, black bears, wolves, cougars, lynx, wolverines, elk, moose, and deer.

PEOPLE, PLANTS, AND CORRIDORS

Connected ecosystems support our livelihoods.

Plants growing in and around the Corridor provide food, medicines and habitat for insects that pollinate plants and control pests for agriculture. The ponderosa pine forests, grasslands and riparian areas along the Corridor filter water that flows into creeks and lakes in the valley bottom. These natural areas help replenish aquifers, lower ground temperatures, maintain soil moisture, and stabilize hillsides and stream banks.

They also provide carbon storage to help mitigate the impacts of climate change and provide natural solutions for mitigating the impacts of flooding, droughts, wildfire, and extreme heat.

The relatively undisturbed plant communities found in the Corridor and adjacent provincial parks provide important examples of the natural habitats that were abundant prior to the arrival of settlers. These native plants are well adapted to heat and drought and respond and recover well after wildfire. The plants need to be able to spread to new locations where the growing conditions are suitable. With help from air currents, insects and animals, vast amounts of pollen and seeds are dispersed throughout the Corridor and across the landscape.

THE ACTIONS

The actions are designed to protect, restore, and maintain habitat connectivity along the existing Corridor between Okanagan Mountain Provincial Park and k'nmalka. They provide a framework for governments and conservation groups to work in collaboration with Syilx Okanagan Nation and Member Communities to implement the actions to protect tmix^{w} (all living things) (biodiversity) in our region.

SYILX KNOWLEDGE AND STEWARDSHIP

This action plan aims to build relationships, trust, and collaborative processes between Syilx and non-Syilx partners. Syilx knowledge and Syilx-led stewardship will play a critical role in refining and implementing actions to protect the land, siwłkʷ (water), and tmixʷ.

The ONA has been successful in leading and developing the strategies and actions to restore nt'yxtix (Salmon Chief) to our Territory. Three decades ago, the sockeye salmon of the Okanagan basin were on the verge of extinction due to dams and poor water management by governments on both sides of the border. Numbers were so low that it was only a matter of time. But Syilx Okanagan leaders had a different vision. For Syilx, salmon is central to connections between generations, communities, humans and non-humans, terrestrial and aquatic species, and trans-boundary watersheds. Our people called upon nt'yxtix through song and ceremony. The ONA spearheaded partnership with all levels of government and over years of hard work finally brought our sockeye back in record numbers (ONA).

SYILX KNOWLEDGE AND STEWARDSHIP CONTINUED

ACTION 1

Work with all partners to co-develop policies, programs, and initiatives that use Syilx principles, laws, protocols, language, and Syilx Knowledge management systems to advance collaborative stewardship of the land and water in and around the Corridor.

- **Centre Syilx stewardship,** sovereignty, and values in all habitat connectivity efforts.
- **Honour multiple knowledge systems** — local Syilx Knowledge supported by western science — when developing and implementing connectivity efforts.
- **Foster Collaboration** for integrating connectivity actions with the priorities of Westbank First Nation (WFN), Okanagan Indian Band (OKIB) and ONA's land use plans, natural resource management plans and climate adaptation plans.
- **Support the compensation** of the Syilx Okanagan Nation and Member Communities for their leadership and involvement in the ongoing development and implementation of the actions.

SYILX KNOWLEDGE AND STEWARDSHIP CONTINUED

ACTION 2

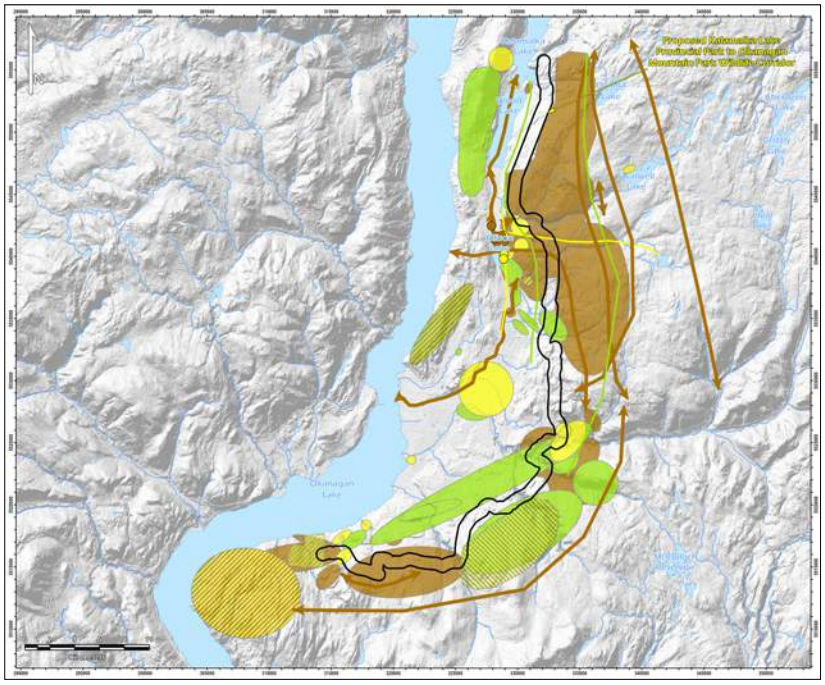
Work with WFN, OKIB and ONA to gather local ecological and cultural knowledge in and around the Corridor to inform future land use planning and management decisions.

- **Expand on the knowledge** already gathered on the wildlife movement and seasonal use patterns (see Figure 2) to delineate a corridor east and upslope of the Corridor path over time, identify key habitat patches, and critical wildlife habitat for protection.
- **Identify habitat** protection and restoration actions to increase populations of culturally important wildlife species and species-at-risk upslope of the Corridor.

Figure 2.

Figure 2 shows the information gathered during Syilx interviews of some of the known areas for:

- summer and winter habitats for animals
- areas for food gathering
- cultural sites
- animal movements.



SYILX KNOWLEDGE AND STEWARDSHIP CONTINUED

ACTION 3

Collaborate with WFN, OKIB, ONA and all partners to explore and develop opportunities for Indigenous-led and co-management agreements for protecting the land, water and wildlife.

- **Identify opportunities** for co-management agreements of new parks and protected areas that are consistent with land claims, self-government agreements and Aboriginal Title and Rights.
- **Identify opportunities** for establishing Indigenous Protected and Conserved Areas and/or Indigenous Land Trusts that support the rights, responsibilities, and priorities of Syilx and Splatsin Peoples.
- **Work to implemen**t the BC Declaration of the Rights of Indigenous Peoples Act and its 5-year Action Plan by developing stewardship forums, guardian programs, and innovative and evolving land use planning initiatives that support integrated land and resource management for the protection of biodiversity.

CLIMATE CHANGE AND CORRIDOR PLANNING

"The two great environmental challenges of our time – biodiversity loss and climate change are interconnected, and they require urgent attention. The escalating loss of biodiversity due to destruction of habitats and impacts of climate change threatens the viability of the Earth's ecosystems and thereby the ecosystem services that support all life."

— Canada's Conservation Vision: A Report of the National Advisory Panel, 2018

Figure 3 shows the current bioclimatic zones in the Okanagan.

Figure 3.
Current bioclimatic zones in the Okanagan

The shifts in bioclimatic zones in Figure 4 show three predicted climate scenarios based on when greenhouse gas (GHG) emissions will be reduced, and the quantity of GHGs released before that point. All scenarios predict that climate change will bring about changes to the region's ecosystems, and it is projected that the Okanagan region will shift to becoming grassland dominant (Utzig, 2012).

In response to expanding grasslands in and around the Corridor, ecological communities will change over time as populations decline, move, or adapt. Many species, including trees, will not be able to migrate quickly enough to keep pace with shifting climate. During this transition, ecosystems will be strongly influenced by disturbances, such as fire and drought; trees may experience more frequent and extensive mortality due to diseases, and invasive species are likely to increase.

The drier and hotter seasons will result in more intense fires, which will reduce the moisture retention of soils, impact the ability for ecosystems to recover after fires and accelerate the transition of the forests to grasslands. The remaining forested habitats will become a refuge for wildlife with their cooler temperatures and higher nutrient regimes. Over time, the shifts of ecosystems will result in the need for a greater movement of wildlife which necessitates the incorporation of climate impacts into conservation planning now.

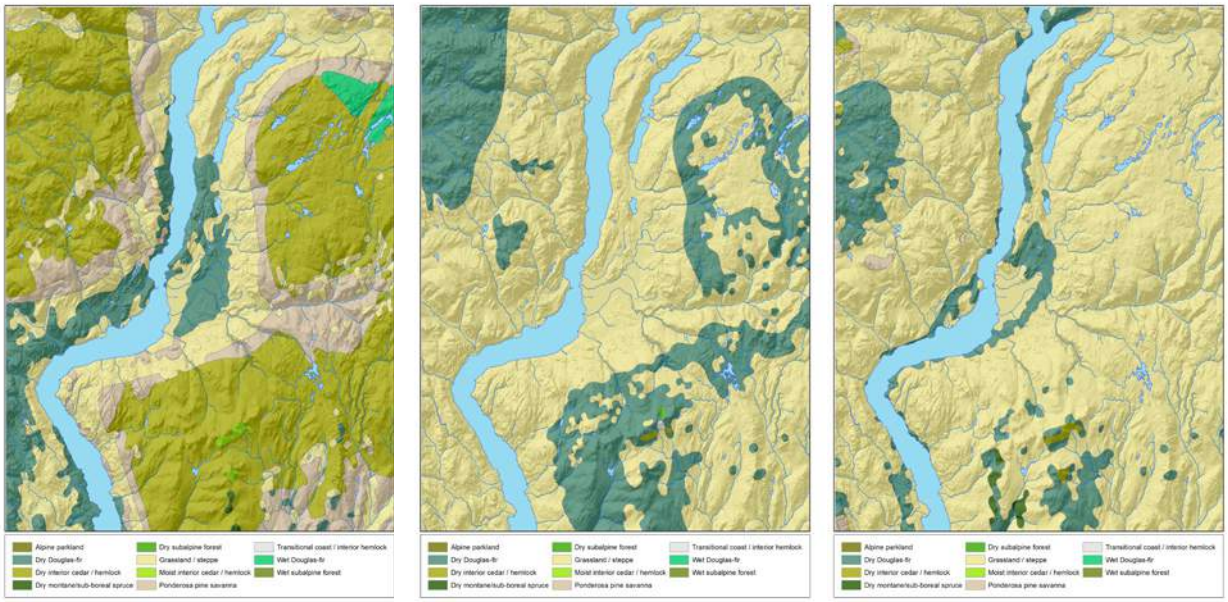


Figure 4.

2080 Warm/Moist **2080 Hot/Wet** **2080 Very Hot/Dry**

Three predicted climate scenarios based on when greenhouse gas (GHG) emissions will be reduced, and the quantity of GHGs released before that point.

CLIMATE CHANGE AND CORRIDOR PLANNING CONTINUED

ACTION 4

Identify areas of climate refugia for biodiversity and determine where the Corridor might need to be expanded to include these areas.

- **Identify** how climate change will impact the distribution of ecosystems and movement of animals and plants in the region.
- **Continue to collaborate** with UBC on climate modeling to identify grasslands and wetlands that are likely to exist in the region in 2050 and 2080 and incorporate findings into the land use planning and land securement objectives.
- **Continue working** with the Okanagan Basin Water Board, the ONA, and the Government of BC (the Province) to develop Environmental Flow Needs for creeks within the Corridor.

CLIMATE CHANGE AND CORRIDOR PLANNING CONTINUED

ACTION 5

Collaborate with senior governments, academic institutions, and Indigenous communities to protect the Corridor as a land-based carbon sink.

- **Collaborate with local governments** to identify, protect, and expand corridors when assessing municipal contributions to mitigate greenhouse gas emissions, including protection of land-based carbon sinks.
- **Promote and work with partners** through the BC Climate Change Adaptation Program to equip farmers, producers, and ranchers in developing climate change mitigation measures and best practices to protect biodiversity for sections of the Corridor that cross agricultural land.
- **Collaborate with agricultural programs** to co-develop, test, adopt and monitor technologies and practices, including beneficial management practices, that sequester carbon and/or mitigate greenhouse gas emissions.
- **Collaborate with researchers** to increase our understanding of the environmental, economic and carbon sequestration benefits of protecting natural areas and corridors.

CLIMATE CHANGE AND CORRIDOR PLANNING CONTINUED

ACTION 6

Integrate wildfire regime modelling and wildfire fuel mitigation plans with ecosystems and species protection measures for corridors in the central Okanagan region (including the Knox Mountain Corridor).

- **Work with** the Province, WFN, OKIB, ONA, UBC and local governments to identify areas within and upslope of the Corridor where burning is appropriate for maintaining healthy ecosystems.
- **Work with** all partners, UBC researchers, professional biologists, and ECCC to better understand fire mitigation methods and set best management practices for enhanced environmental protection.
- **Explore the potential** to expand Syilx-controlled burning for land management practices.
- **Conduct research** with UBC and the Invasive Species Council of BC to identify if controlled burns can help control the spread of invasive species.



LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY

Local governments can prioritize the protection and enhancement of corridors, natural areas, water, and air quality, and biodiversity.

Local government land-use bylaws and master plans provide comprehensive policy to guide connectivity planning. This Action Plan will inform future updates of bylaws and strategic plans by identifying connectivity corridors and critical habitats that maintain, restore, and protect habitat for wildlife.

In 2018 and 2021, OCCP, UBC, the Province and the RDCO worked with the District of Lake Country and the City of Kelowna to incorporate connectivity-planning principles, mapping, and development guidelines into their Official Community Plans to protect habitat for wildlife. The District of Lake Country and the City of Kelowna incorporated corridor mapping, policies and development guidelines into their OCPs (see Figure 5 for City of Kelowna Corridor map). This plan builds on the work undertaken by the local governments in planning for connectivity.

Figure 5.

City of Kelowna
Official Community Plan
Wildlife Corridor Map 14.1

LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

ACTION 7

Incorporate connectivity goals and objectives into local and provincial government strategic plans to maintain wildlife habitat, biodiversity, and ecosystem connectivity.

- **Integrate** habitat connectivity research and land use policies and regulations into official community plans, the regional growth strategy, master park plans, agricultural plans, and climate action plans to help guide land use decision-making processes.
- **Explore** to increase riparian buffers and create grassland buffers for the Corridor.
- **Examine** how current zoning, future land uses, and land use density adjacent to the Corridor impacts the function of ecosystems within the Corridor.
- **Update** the Environmental Development Permit Approval process to include habitat connectivity objectives, identify best practices for development in and adjacent to corridors and seek consistent requirements for environmental protection between municipalities.
- **Identify** the role and the value of the Corridor from a natural asset and service provider perspective to build the case for protection and to benefit species-at-risk.
- **Engage** with relevant provincial government ministries to determine how connectivity goals and objectives can be included in strategic plans for Crown land.

LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

ACTION 8

Work with the Ministry of Transportation and Infrastructure (MOTI) to build wildlife crossings on Highway 33 to create safe passage for animals and reduce the number of collisions with wildlife.

- **Work with the MOTI** on the future underpass for the hairpin turn road realignment of Highway 33.
- **Determine the need and locations** for signage, fencing, and speed controls to minimize collisions with wildlife.
- **Examine opportunities** to better understand wildlife movement patterns of large animals by using GPS collaring, snow tracking, camera traps and local knowledge to identify high frequency wildlife crossing areas.
- **Monitor the movement** of small mammals and reptiles to identify additional crossing options and/or the use of herptile fencing protection and explore ways to minimize the application of pesticides and herbicides along the Corridor in areas where these mammals and reptiles are frequenting.

CASE STUDY: Banff Wildlife Crossings

The use of animal crossing structures, such as culverts, overpasses, and underpasses, is becoming a popular solution for protecting wildlife and reducing wildlife-vehicle collisions. Banff National Park is an amazing example of the success of these structures.
The TransCanada Highway between Canmore and Banff was previously referred to as "the meat grinder" due to the high number of elk-vehicle collisions. The initial step to reduce roadkill numbers was to set up fencing along the highway. It was found that fence sections 2 to 10 kilometres in length have the best return investment, so hotspots for wildlife collisions were prioritised. Fencing alone resulted in an 80% reduction in wildlife-vehicle collisions (Anthony P. Clevenger et al 2001). The next step was installing crossing structures to maintain connectivity between populations and to prevent wildlife from going around the fencing to cross the highway. It was found that although animals have an initial preference for overpasses, they quickly adapted to using both overpass and underpass structures.

LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

ACTION 9

Establish a methodology for prioritizing areas for regional conservation land securement. Ecosystems are shifting from climate change and as a result land acquisitions can no longer focus on static landscapes.

- **Create a land securement prioritization matrix** using factors such as, but not limited to, environmental sensitivity, zoning, distance from infrastructure, access to water, connectivity to parks, protected areas, and Crown land, cultural values, habitat patch size, presence of critical habitat for species-at-risk, available ecosystem services, and parcel size.
- **Collaborate** with local governments, WFN, OKIB, Central Okanagan Land Trust and Nature Trust of BC to coordinate land securement and the management of conservation lands.
- **Prepare** a land securement funding strategy that includes identifying species-at-risk, climate change mitigation and adaptation and green infrastructure funding.

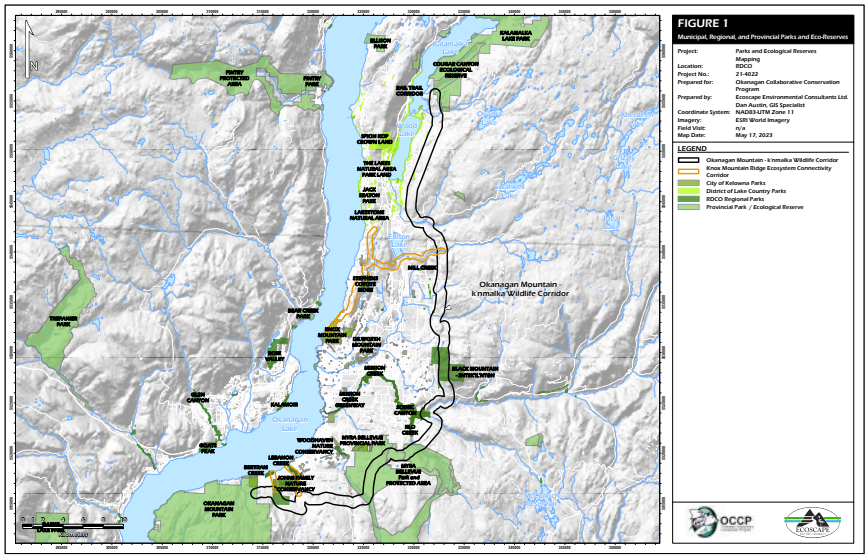


Figure 6.

Municipal, regional and provincial parks and eco-reserves.

LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

ACTION 10

Create long-term funding models to support connectivity actions for planning, land securement, habitat stewardship and monitoring.

- **Work towards** establishing a Conservation Fund for the Central Okanagan to support habitat connectivity for biodiversity conservation.
- **Explore opportunities** to create Development Cost Charges for conservation objectives.
- **Identify the opportunity** for developing the Corridor as a land compensation bank to offset loss of natural areas from development.
- **Explore opportunities** for using carbon credit programs to financially support acquisitions of lands.

LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

ACTION 11

Collaborate with international partners to maintain habitat connectivity from the interior of British Columbia into Washington State.

- **Work with** Conservation Northwest's Sagelands Heritage Program, the Yellowstone to Yukon Conservation Initiative and the Cascadia Partner Forum to raise awareness of the importance of habitat connectivity, share in lessons learned and identify opportunities to collaborate on initiatives.
- **Establish partnerships** with Colville Confederated Tribes, and planning staff from Okanogan, Douglas, Yakima, and Chelan counties in Washington State to help implement Conservation Northwest's connectivity objectives.
- **Expand connectivity planning efforts** to the North Okanagan and Thompson Nicola regions and in the South Okanagan to maintain connectivity from north to south and provide corridor linkages to the new National Park.

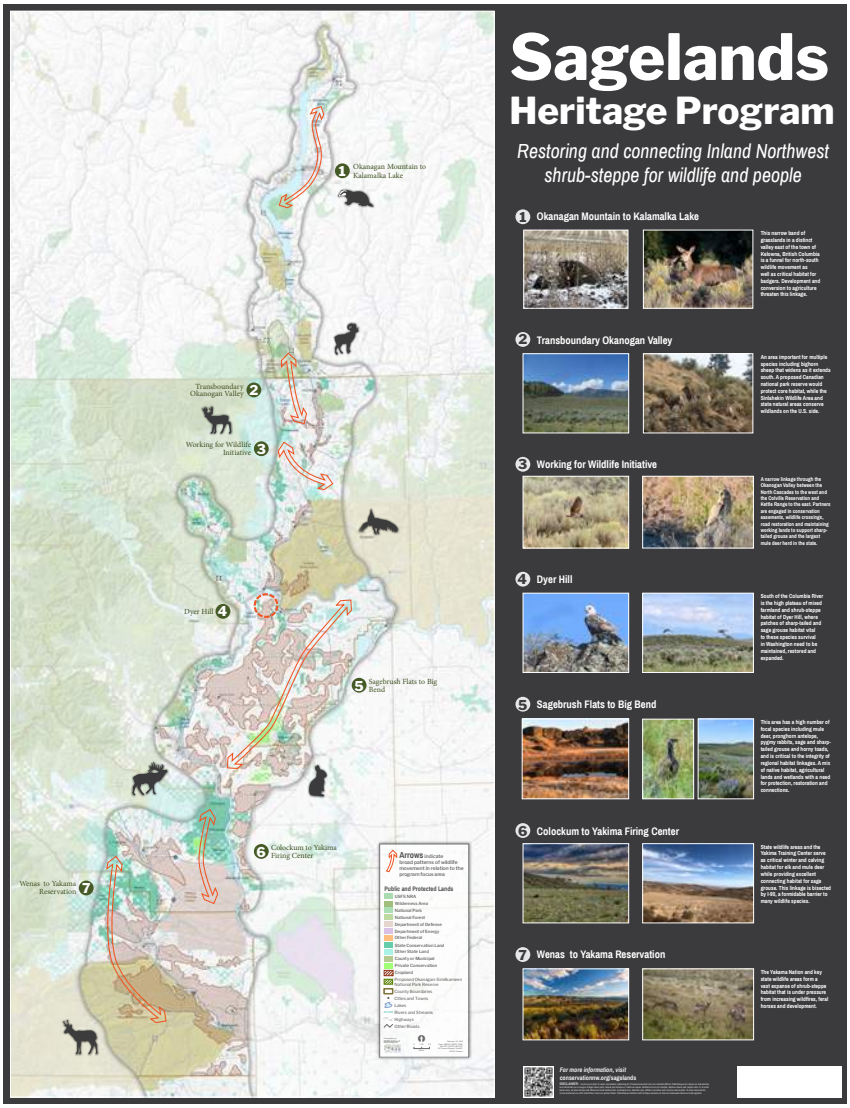
LAND USE PLANNING, POLICIES, AND REGULATION FOR CONNECTIVITY CONTINUED

Connecting to the Larger Landscape

The Sagelands Heritage Program (SHP)[3] works to maintain, restore and connect shrub-steppe landscapes from the Okanagan Valley to southern Washington State. **The Okanagan Mountain – k'nmalka Corridor** is part of the "connected backbone" initiative (see Figure 7).

Figure 7.

The Connected Backbone, key north-south and east-west shrub-steppe habitats extending from the Okanagan Valley south into Oregon State that require protection.



Sagelands Heritage Program map

Source: https://conservationnw.org

3 https://conservationnw.org/our-work/habitat/sagelands/

ADDRESSING CUMULATIVE EFFECTS FOR CONNECTIVITY

Addressing cumulative effects from urban and agriculture development and resource extraction will require a shift away from land use decisions that focus on trying to determine how much impact is too much, to decisions that contribute to sustainability, climate change mitigation and Indigenous self-determination.

ACTION 12

Work with all partners to identify baseline information and mitigation measures for cumulative effects.

- **Develop a conservation planning tool** for the Okanagan to help local government planners and qualified environmental professionals assess the cumulative impacts of land development on connectivity, habitats, and species and develop strategies to better protect the environment.
- **Work with** local governments and UBC Okanagan researchers to establish ecosystem retention targets at municipal and regional scales.
- **Collaborate** with user groups, governments, WFN, OKIB and ONA to identify recreation impacts in and adjacent to the Corridor and identify and implement best practices to mitigate the impacts.
- **Update the sensitive ecosystem inventory mapping** for the central Okanagan to identify the remaining ecosystem types, habitat patches and secondary corridors (in progress).

SUPPORTING AGRICULTURAL LANDS FOR CONNECTIVITY

As keepers of large land parcels, farmers, ranchers, and producers can be important environmental stewards. Stewardship initiatives, such as rotational grazing, providing nesting and shelter opportunities for small mammals and birds, and managing riparian areas can be done in a way that improves and enhances biodiversity and ecosystem connectivity.

CASE STUDY: Farming Practices in Switzerland

In Switzerland, farming standards that focus on sustainability, biodiversity, supporting rural areas, and necessary food production have been part of legislation since 1996. Farmers have mandatory basic requirements that allow them to receive direct payments from the government for their work in supporting sustainable agriculture. These requirements can be met from an appropriate combination and balance of ecological compensation areas, the rational use of fertilisers, crop rotation, soil protection, economic and specific use of plant treatment products, and animal welfare measures. Farmers can also opt to do additional ecological work to gain further direct payments. Many of the additional programs include providing habitat for wildlife by protecting meadowland and reed beds and leaving natural habitat along field margins. There is also incentive for farmers to join their ecological zones with neighbours', thereby creating continuous habitat linkages and wildlife corridors (Swiss Agricultural Policy – FOAG 2004).

SUPPORTING AGRICULTURAL LANDS FOR CONNECTIVITY CONTINUED

ACTION 13

Develop and promote opportunities for best management practices on agricultural lands in and around the Corridor.

- **Explore opportunities** to establish a regional Corridor-specific biodiversity plan and associated best management practices for agricultural properties.
- **Determine the opportunity** for a Group Environmental Farm Plan, where there are shared objectives and funds to conserve or enhance environmental values.
- **Identify and prioritize** invasive species with the greatest potential to cause negative impact on biodiversity and develop and implement plans for their eradication or control, prioritizing protected areas and other areas of high biodiversity value.
- **Explore opportunities** for farmers to receive financial support for carbon storage from all levels of government.
- **Develop education materials** that demonstrate the benefits of conservation to farmers.

SUPPORTING AGRICULTURAL LANDS FOR CONNECTIVITY CONTINUED

ACTION 14

Work with the Ministry of Agriculture, the Agricultural Land Commission (ALR) and the Farm Advantage Program to explore opportunities to strengthen environmental protection on agricultural lands.

- **Work with the ALR, UBC and the RDCO** to explore opportunities for identifying how climate change may impact agriculture expansion into higher elevations and impact the grasslands and ponderosa pine forest ecosystems (within and outside ALR).
- **Work towards amending policies and legislation** with conflicting management objectives (i.e., Right to Farm vs. Water Conservation and Habitat Connectivity).
- **Work with the ALC and Ministry of Agriculture** to draft best management practice policies to encourage conservation on ALR lands.



CONNECTING WITH PEOPLE

Planned corridors are important for protecting connectivity, but they are only part of the solution. Natural habitat areas on private land, urban greenspaces, utility corridors, planted boulevards, and even vegetated backyards can be important contributors to overall landscape connectivity.

ACTION 15

Collaborate with stewardship organizations, local governments, and community champions to develop outreach and communications for on-the-ground conservation efforts that educate the public and policymakers on the value of landscape connectivity and climate resilience, and its health, economic and cultural benefits to the public.

RESOURCES AND TOOLKITS

Wildfire Communication Plan for Agriculture

Project on Knowledge Transfer for Water Management Practices
— tips and resources for farmers, webinars, irrigation schedule calculators, monitoring resources

Research guide: Improve Water Infiltration, Soil Health with On-Farm Research
An experimentation-based approach to improve permeation of water. This includes a case study of a farmer using Forage Radish to break apart soil compacted by decades of tilling.

Farm Flood Readiness toolkit

- **Work with** the Okanagan Similkameen Stewardship Society, naturalist clubs, and other organizations to provide community events that connect people to nature (e.g. snake smart training, beginner birding, owl surveys, bird surveys, bluebird monitoring program).
- **Establish sites** at local farms that demonstrate environmental best practices that are easily transferred to other farms.
- **Involve students** in stewardship partner activities such as vegetation surveys and restoration projects.
- **Work with local groups**, such as the Friends of South Slopes and Black Mountain, Central Okanagan Naturalist Club, in designing educational outreach.
- **Create connectivity outreach materials** to promote the Corridor and its protection, celebrate accomplishments, share case studies, and provide community recognition.
- **Work with RDCO** Parks department to develop educational materials and learning opportunities.

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