

# A Biodiversity Conservation Strategy for the Okanagan Region

## SUMMARY



Okanagan Collaborative Conservation Program  
South Okanagan Similkameen Conservation Program

Copyright © 2014 Okanagan Collaborative Conservation Program & South Okanagan Similkameen Conservation Program. All rights reserved.

The full document *Keeping Nature in Our Future: A Biodiversity Conservation Strategy for the Okanagan Region* is available at:  
<http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=42389>.

Photo Credits: Allan Brooks Nature Centre, Margaret Bakelaar, Buffy Baumbrough, Debbie Clarke, Forest Lands & Natural Resources Operations, Don Guild, Margaret Holm, Kristi Iverson, Susan Latimer, Pauline Monet, Salina Petschulat Curtis, Regional District of Central Okanagan.





## ACKNOWLEDGMENTS

This document is a summary of *A Biodiversity Conservation Strategy for the Okanagan Region*, which is one of the component reports in the *Keeping Nature in our Future* series. The series also includes conservation analyses for the South Okanagan Similkameen and North and Central Okanagan, *A Biodiversity Strategy for the South Okanagan Similkameen*, and two companion documents: *Designing and Implementing Ecosystem Connectivity in the Okanagan* and *Case Studies from the North and Central Okanagan that support the Biodiversity Conservation Strategy for the Okanagan Region*.<sup>1</sup>

These reports were developed through collaborative and consultative processes led by the South Okanagan Similkameen Conservation Program (SOSCP) and the Okanagan Collaborative Conservation Program (OCCP). These umbrella organizations represent more than 80 partners and countless participants working to achieve conservation goals across the three regional districts covering the North, Central, and South Okanagan and Similkameen areas.

We thank the steering committees who guided this work and the many partners, agencies, technical experts and observers who contributed to the initiative. We also acknowledge with gratitude the following organizations for their financial support:

*Regional District Okanagan-Similkameen, Regional District of the Central Okanagan, Regional District of the North Okanagan, Government of British Columbia, Environment Canada, Great Northern Landscape Conservation Cooperative, Habitat Conservation Trust Foundation, Okanagan Water Board Basin, Real Estate Foundation of British Columbia, and Vancouver Foundation.*

---

<sup>1</sup> The reports in the *Keeping Nature in our Future* series are available at <http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=42389>.





Biodiversity conservation helps to protect ecological services, i.e., “the free gifts of nature”, such as fish, wildlife, pollination, soil, clean air and water, green space and scenic beauty, all of which contribute to the region's economy, health and livability.

## WHAT IS A BIODIVERSITY STRATEGY FOR THE OKANAGAN?

*A Biodiversity Conservation Strategy for the Okanagan Region* (the Strategy) provides a “big-picture” view of the status of regional biodiversity and highlights conservation priorities for the future. Biodiversity conservation involves protection of natural areas, and restoration and enhancement, where ecosystems, habitats or species have been damaged, reduced or lost. The Strategy provides a science-based planning framework for consideration of conservation options for entire ecosystems and watersheds that go beyond municipal or rural boundaries and includes all land-tenures.

### The Strategy identifies:

- Why we should conserve natural areas;
- Which natural areas should be conserved;
- Who can contribute;
- How and when these natural areas can be conserved; and
- The role of natural areas in protecting regional biodiversity.

The Strategy outlines a vision, goals and guiding principles for conservation planning and provides an analysis of the status of biodiversity in the region, including summaries of key findings for each regional district in the Okanagan. It outlines strategic directions for local and regional governments and provides lists of tools, resources and federal and provincial legislation relevant to biodiversity conservation.



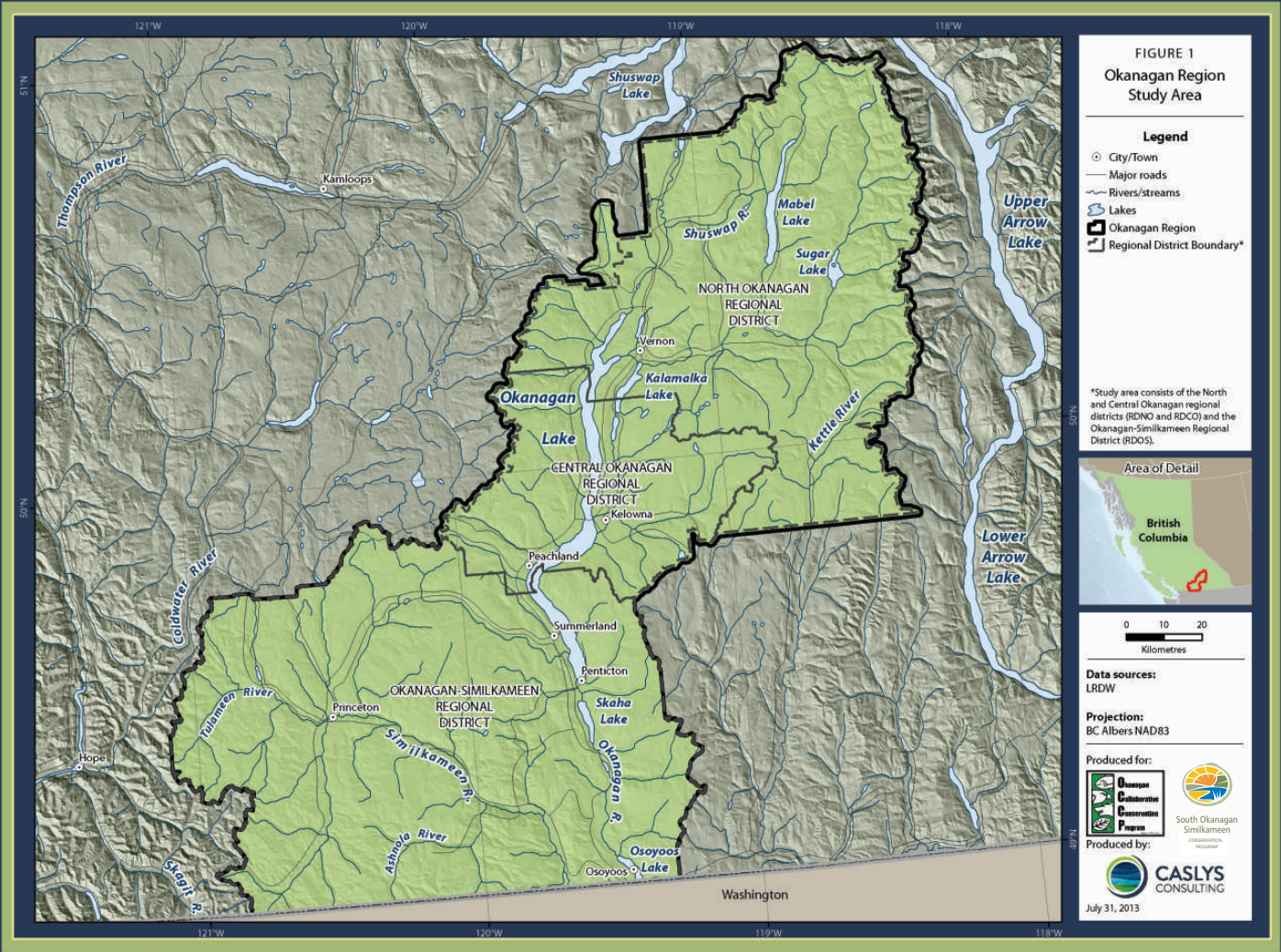
### Biodiversity - The Variety of Life on Earth

Biodiversity is short for biological diversity - the variety of life in all its forms. It includes species and ecosystems and the processes that link them together - essentially, everything that we think of as nature.



# OKANAGAN REGION STUDY AREA

The Biodiversity Conservation Strategy for the Okanagan Region covers the geographic area of the South Okanagan-Similkameen, Central Okanagan and North Okanagan regional districts.







The Biodiversity Strategy provides detailed environmental information and guidance to consider during planning and decision-making for parks, recreation, urban, suburban, rural and resource development.

## WHY IS A BIODIVERSITY STRATEGY NEEDED FOR THE OKANAGAN?

The Okanagan region is an exceptional place with some of the greatest concentrations of species and ecosystems in Canada. Many are found nowhere else in the country and, in some cases, the world. Population growth and accelerated development in the region have significantly impacted the region's rich and diverse ecosystems and continue to put pressure on remaining natural areas.

By investing in *Keeping Nature in our Future*, we can help to ensure a natural legacy for our children and allow future generations to enjoy the diverse and healthy ecosystems, economies and communities we enjoy today.



The Okanagan region has the highest species diversity in Canada

The Okanagan supports very high biodiversity and many species at risk. Conservation of the Okanagan's remaining natural landscapes is vital to ensure that many unique communities and species will not be lost.

## Benefits of *Keeping Nature in Our Future*

- Provides a framework for conserving healthy ecosystems, clean air, soil and water; diverse wildlife; green space; and scenic beauty, all of which contribute to the region's health, liveability, resilience, and economic prosperity.
- Supports the use of science-based, peer-reviewed environmental information early in the decision-making process to promote environmentally friendly development and reduce development costs.
- Supports the responsibility of municipal and regional governments to foster environmental well-being.
- Assists senior, municipal and regional governments to meet legislative requirements and policy mandates for biodiversity protection.
- Assists local governments to meet B.C. Climate Change Action Charter targets through conserving natural areas that can store carbon.
- Provides a basis for conservation partnerships, sharing of resources and partnerships and divides the responsibilities of integration of planning and conservation responsibilities, thus reducing costs to individual agencies.
- Identifies possible options for financing conservation.
- Reduces the risk of incurring future costs for species at risk recovery programs.
- Provides a basis for directing resources to areas of greatest ecological importance.
- Promotes community and business participation in stewardship and sustainability.
- Sets the stage for promoting sustainable business and green development, regional competitiveness, and innovation.



## Building on a Legacy- Links to Other Plans

Various other regional and sub-regional strategies have identified the need for conservation measures to balance economic growth with long-range ecological health and sustainability.

**Keeping Nature in our Future** provides data, decision support tools, strategic directions, and recommended actions that make it easier to achieve the goals and strategies identified in other plans, such as regional growth strategies, official community plans, economic sustainability plans, parks plans, watershed sustainability plans, and environmental management area strategies.





## A BASIS FOR CONSERVATION PLANNING - Vision, Goals & Guiding Principles

**Vision:** The Okanagan region is an area rich in natural diversity that provides valuable habitat for a unique and diverse array of plants and animals, some of which are rare in Canada. Healthy ecosystems and habitat networks are valued and conserved by decision-makers and citizens as the basis for health, livelihoods, liveable communities and economic development.

### Goals

1. Develop and manage a connected, biologically diverse network of ecosystems and natural areas across all land uses and tenures.
2. Ensure that decision-makers and citizens have the information and tools needed to protect, enhance, and restore important sensitive ecosystems, habitats, natural corridors and species.
3. Identify conservation areas that can be included in a strong regional network of greenways, parks, and protected areas.
4. Promote a cooperative, collaborative approach to conservation and restoration of natural areas throughout the Okanagan region and among all levels of government, non-government and private sector organizations, landowners and other residents.

### Guiding Principles

1. Protect representative core habitat areas.
2. Protect habitats characteristic of our region.
3. Connect habitat areas.
4. Maintain a matrix of lands outside of core areas and corridors.
5. Maintain diversity of ecosystems, species, and genetics.
6. Look at biodiversity from a regional perspective.
7. Share responsibility.
8. Practice precautionary decision-making.





## THE STATUS OF NATURE IN THE OKANAGAN REGION

To plan future conservation activities, we need to know what's happening now. The Strategy engaged experts who assessed the current status of nature in the Okanagan region using ecological, environmental, and land ownership data. This resulted in four types of maps that can be used as “decision tools” to guide conservation strategies and actions for remaining natural areas.<sup>2</sup>

Type of Map Decision Tool	What it Tells Us
<b>Conservation Rankings</b>	Which ecosystems are the most important for conservation?
<b>Relative Biodiversity</b>	What are the “hotspots”, i.e., areas of greatest importance for biodiversity?
<b>Wildlife Connectivity</b>	How are habitats linked to form an interconnected network that allows wildlife movement?
<b>Land Management Classes</b>	What’s being managed to protect biodiversity now and where are the gaps and opportunities?

Regional and local governments can use this technical guidance to help implement existing strategies, policies, plans and bylaws. The decision tools will also be helpful for other levels of governments, conservation groups and private landowners and residents when making planning and land use decisions.

<sup>2</sup> Digital maps files (GIS shapefiles) and image documents of the maps (pdf posters) are available at <http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=42389>

## CONSERVATION RANKINGS

### WHICH ECOSYSTEMS ARE MOST IMPORTANT?

The conservation rankings maps show the relative importance of various ecosystems in the region. The rankings are based on the provincial Conservation Framework and local sensitive ecosystem priorities. “Sensitive ecosystems” refer to natural areas that are relatively unmodified, ecologically fragile, and/or recognized as being at risk in the provincial landscape. This may be due to their limited natural occurrence, combined with loss or degradation from human activities. Four classes of conservation ranking are used: very high, high, moderate, and low importance.

#### Key Finding:

- *Almost 60% of the Okanagan region is classified as having very high or high conservation ranking.*

#### Important ecosystems for conservation include:

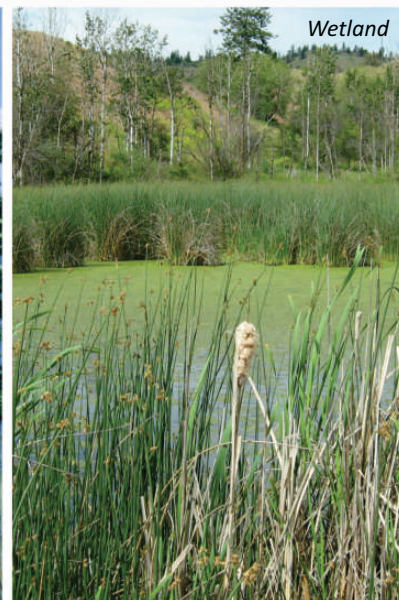
- Wetlands, including marshes, swamps and wet meadows;
- Riparian areas occurring beside streams, rivers as well as floodplains, gullies and beaches;
- Old forests, broadleaf woodlands, coniferous forests, including large old coniferous trees, aspen copses, and open stands of Douglas fir or ponderosa pine;
- Antelope-brush and sagebrush shrub lands;
- Grasslands;
- Sparsely vegetated lands with rock talus and cliffs;
- High elevation alpine areas of dwarf shrubs, grasses, herbs and clumped forests; and
- Mature forests and seasonally flooded fields that provide habitat.



*Antelope Brush*



*Ponderosa Pine Grassland*



*Wetland*



## RELATIVE BIODIVERSITY WHERE ARE THE BIODIVERSITY HOT SPOTS?



The relative biodiversity analysis identifies biodiversity “hotspots” or areas of greatest ecological importance in the regional landscape. It builds on the conservation ranking maps by incorporating additional species and habitat information. Five classes of relative biodiversity are used: very high, high, moderate, low, and very low.

### Key Findings:

- *13% of the Okanagan region has high or very high relative biodiversity, i.e., biodiversity hotspots.*
- *Although the valley bottoms represent a small proportion of the total Okanagan region (22%), a disproportionate amount of the very high and high biodiversity values occur in valley bottoms, as compared to upland areas.*
- *The valley bottoms are critical areas for conservation because they contain more of the high biodiversity habitats and are under the most pressure from development.*

Protection of upland areas cannot replace or compensate for loss of valley bottom habitat, which is vital for supporting biodiversity.



## CONNECTIVITY

### HOW ARE HABITATS LINKED?



Habitat<sup>4</sup> connectivity describes the degree to which habitat areas are linked to form an interconnected network of corridors for wildlife movement. Connectivity varies, based on natural terrain features and levels of disturbance. For example, it is more difficult for most wildlife to move through steep areas than gentle slopes, and to pass through settled areas than natural areas. The connectivity maps rank the current degree of connectivity from low to high, and identify key barriers and “pinch points” to wildlife passage. They also identify opportunities to protect existing linkages, address barriers and provide “missing links” by protecting smaller, local, natural corridors and habitat patches.

#### Key Findings:

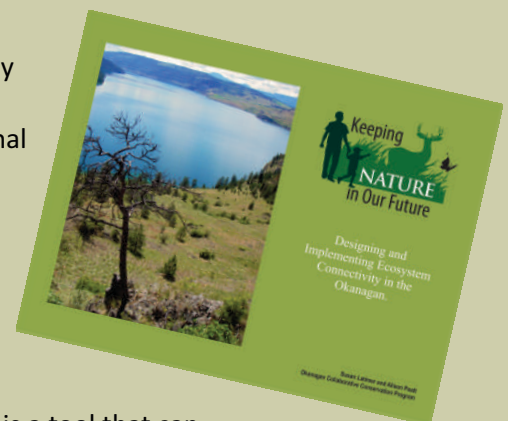
- *The Okanagan Valley represents a north-south corridor, facilitating wildlife movement between the U.S. Columbia Basin and the grasslands of the Central Interior Plateau of BC.*
- *Human settlements, large lakes, and the transportation network represent barriers to wildlife movement.*

Local and senior governments can support biodiversity conservation by retaining and restoring ecosystem connectivity and by integrating connectivity as a consideration into planning processes such as: regional growth strategies, official community plans, parks and recreational plans, land management and acquisition plans.

Private landowners and non government organizations can also contribute to protecting local natural areas and species sensitive to human disturbances.

Designing and Implementing Ecosystem Connectivity in the Okanagan is a tool that can help decision makers and landowners implement ecosystem connectivity that benefits wildlife and human communities. The guide is available at:

<http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=42389>



<sup>4</sup> Habitat is the place where an organism lives, and the conditions of that place, including the soil, vegetation, water and food.



## LAND MANAGEMENT CLASS

### WHAT'S BEING MANAGED & WHERE ARE THERE OPPORTUNITIES?

The land management class maps assess ownership and tenure to determine current levels of biodiversity protection. Privately owned lands that are not in the Agriculture Land Reserve (ALR) and Indian Reserves were identified but not assigned to management class. All other lands were assigned into one of four management classes:

- Class 1: Conservation lands with the highest degree of biodiversity conservation.
- Class 2: Dedicated open space, currently protected as greenspace due to its land use designation (e.g., municipal park, public trail). Protected status may or may not be long term; may have greater degree of disturbance than Class 1 lands.
- Class 3: Public resource lands, such as Crown lands, used for resource-based activities such as forestry or grazing.
- Class 4: Agricultural Land Reserve, locally zoned agriculture and Crown leases.

#### Key Findings:

- *Currently 15% of the region's very high and high biodiversity habitats are protected by conservation lands and dedicated open spaces (Classes 1 and 2).*
- *Much of the region falls within resource lands (Class 3) and these lands contain a high proportion of the very high relative biodiversity habitats.*
- *The large amounts of resource lands (Class 3) and the comparatively small amount of dedicated conservation lands, highlight the need for public resource lands to consider multiple values, including biodiversity.*
- *Indian Reserves and private lands also have a high proportion of very high and high biodiversity habitats. This outlines the need for conservation incentives, land use planning capacity, and increased opportunities for voluntary stewardship.*
- *The Agriculture Land Reserve is concentrated in the valley bottom where there is also significant high and very high biodiversity habitat values. Therefore, there is need to consider biodiversity on these lands.*

It is important to consider how protecting biodiversity and farming within the Agricultural Land Reserve can be managed for the mutual benefit of both.





## STRATEGIC DIRECTIONS FOR GOVERNMENTS

*A Biodiversity Strategy for the Okanagan Region* proposes 17 strategic directions for biodiversity conservation by local and senior governments, and opportunities for action under each one.

### Strategic Directions for Local Government

1. Establish new, or update existing land use policies and regulations to ensure that development processes integrate biodiversity conservation considerations.
2. Build on the existing network of parks, protected areas and greenways to strengthen natural area conservation within a regional context.
3. Improve and expand methods to finance conservation of lands with ecological values.
4. Set security deposits to encourage environmental compliance consistent with the complexity of the development.
5. Develop a range of development, tax and financial incentives to encourage stewardship on private lands.
6. Share data and mapping between governments to make scientifically defensible land use decisions that protect regional ecosystems.
7. Promote better public and stakeholder understanding of regional biodiversity.
8. Develop the capacity of local government staff and elected officials to become leaders and innovators in implementing biodiversity conservation.
9. Improve interagency collaboration on biodiversity conservation and capitalize on partnership opportunities.



Local governments have legal options for providing landowners and developers with incentives to meet community goals such as protecting biodiversity and "green" infrastructure."



## Strategic Directions for Senior Government

1. Establish new, or improve existing provincial enabling legislation that sets out powers and responsibilities of local governments for biodiversity conservation.
2. Improve implementation of conservation initiatives; provide leadership on regional conservation planning initiatives; promote interagency cooperation, and enforcement of senior legislation, regulations, and standards.
3. Manage ecological values on provincial and federal Crown lands in a manner that leads by example.
4. Improve the efficiency and effectiveness of environmental mitigation and compensation programs.
5. Continue to build a network of protected areas to conserve sensitive and important ecosystems that are underrepresented in the current network.
6. Support landowners, managers and other stakeholders to conserve biodiversity with financial and technical assistance.
7. Conduct applied research and scientific studies to support biodiversity conservation in the region and disseminate results to decision-makers and stakeholders.
8. Ensure that environmental protection goals, including biodiversity conservation are effectively considered within government permitting processes.



## NEXT STEPS: IMPLEMENTATION & MONITORING

This Strategy and the *Keeping Nature in our Future* series have already had a positive impact on biodiversity conservation by:

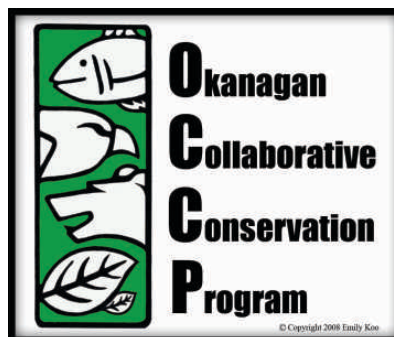
- Increasing an understanding of the state of our environment,
- Informing development approval processes,
- Helping communities think and plan for parks and greenspace networks and,
- Opening conservation opportunities with partners across our international boundary.

SOSCP, OCCP and their partners are committed to ensuring that this Strategy continues to significantly strengthen biodiversity conservation in the Okanagan region by:

1. Continuing to engage stakeholders and decision makers, including First Nations,
2. Coordinating implementation across the Okanagan region and other relevant regional, inter-regional and international land use planning and management initiatives, and
3. Evaluating and reporting on the progress of Strategy implementation.



[www.soscp.org](http://www.soscp.org)  
[bryn.white@gov.bc.ca](mailto:bryn.white@gov.bc.ca)  
250.490.8225



[www.okcp.ca](http://www.okcp.ca)  
[occp123@gmail.com](mailto:occp123@gmail.com)  
250.469.6292

