



FACTS IN FOCUS

Facts in Focus



2018

DID YOU KNOW?

Natural Environment

Kelowna's natural environment distinguishes it as a unique place in Canada. The lakes, mountains and streams draw many people to live and visit, contributing significantly to the local economy. As the foundation of what makes Kelowna unique and special, it is fundamental that the City plans to protect the water, air and land that residents enjoy and depend upon for their health, economy and livability.

The Okanagan's ecosystems are among the rarest in BCⁱ, with over 25 per cent of the Central Okanagan assessed as sensitive, and the remainder modified by human developmentⁱⁱ. Kelowna lies at the heart of the Okanagan valley, and the City's natural areas form a vital linkⁱⁱⁱ for wildlife migration and plant species dispersal between the north and south^{iv}, which will become increasingly important to both plant and wildlife species with climate change. Similarly, natural areas are home to a diverse population of wildlife species, many of which are at risk in BC and Canada^v. The Central Okanagan is home to many rare and endangered species and ecosystems. Riparian areas, wetlands, grasslands, and ponderosa pine forests are commonly critical habitats for many at risk species.

Natural habitat not only conserves our biodiversity, but it also sequesters carbon dioxide and stores a substantial amount of carbon. Conserved areas provide opportunities for ecosystems and species to adapt to climate change and help to mitigate threats such as flooding and drought. These processes, also known as 'green infrastructure' activities, provide



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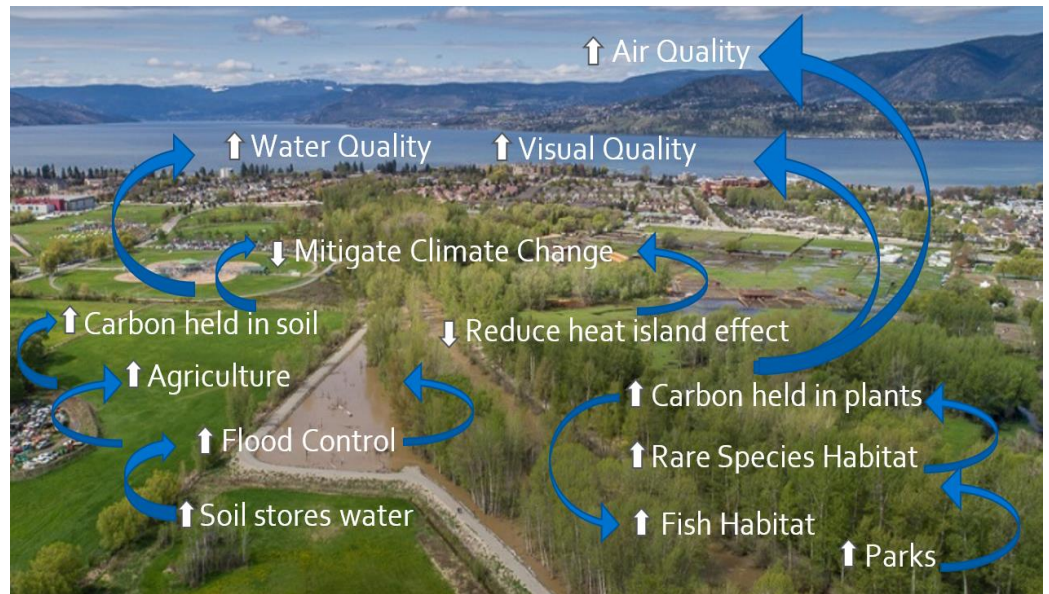
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CURRENT INITIATIVES

There have been many initiatives related to environment since the 2011 OCP. The following are either in progress or endorsed:

- Mission Creek Restoration Initiative
- Community Climate Action Plan
- Pedestrian and Bicycle Master Plan
- Transportation Master Plan
- Agriculture Plan

Functions of Natural Areas



economic and environmental services to communities. From retaining water, preventing flooding, recharging aquifers that provide drinking water, and providing habitat for a variety of species, the natural environment is an investment in our future quality of life.

The City has changed over time

While 28 per cent of Kelowna has been identified as sensitive ^{vi}, over 64 per cent has been altered by urban or agricultural activity. Riparian and grasslands are uncommon, and wetlands, old forests, and woodlands are extremely rare. What's more, many of these ecosystems remain at risk for loss and further fragmentation due to development. Since 1800, the City has lost roughly 92 per cent of riparian areas, 77 per cent of broadleaf woodlands, and 73 per cent of grasslands to development ^{vii}.

Natural areas benefit the community in many ways. They benefit agriculture, by providing natural predators such as birds that reduce pests in vineyards and orchards. Natural areas function as a carbon sink, reduce the heat island effect, contribute to the aesthetics of what makes Kelowna beautiful and is the backdrop that makes many parks enjoyable for hiking and mountain biking.

Globally, cities are at a crossroads of how they plan to accommodate a growing population base and how to reconcile the resulting effects to the natural environment. The ecological footprint of development threatens the systems upon which people depend ^{viii}. Notably, technology and market forces have changed significantly since the last OCP update in 2011, and the necessity to protect remaining natural ecosystems and wildlife habitats is high given the multitude of functions that they serve.

Current Direction of the 2030 OCP

In 2011, the citizens of Kelowna outlined a vision for a sustainable city, with a balance between environmental protection, economic growth, social development and cultural vibrancy. Through this, the core direction of the OCP ^{xiii} relating to environmental protection is:

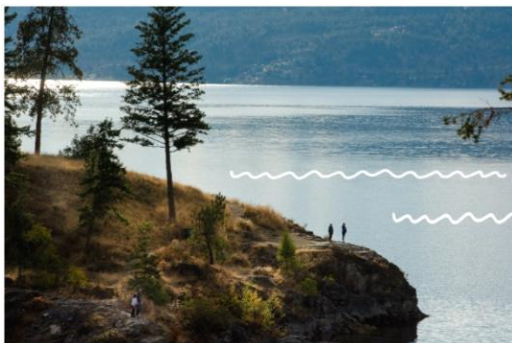
DID YOU KNOW?



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The cost to the City for flood protection in 2017 alone was \$3.3 million^{xi}, with a total of \$10.7 million^{xii} in damages being shared by the province and other jurisdictions.



- ▶ **Protect our natural areas.** The OCP established clear direction to protect natural areas including wetlands, riparian areas and forested slopes from the impacts of a growing city.
- ▶ **Sustainable development.** Policy and regulation was set out in the OCP to encourage sustainable site and community development.
- ▶ **Protect Species Biodiversity.** The OCP included clear policy and guidelines to help protect for a diversity of species and the ecosystems they live in.

Since 2011, the City has consistently applied the principles of natural area protection and restoration for creeks, riparian areas, steep slopes and lakeshore. This has been accomplished through Environmental Areas Development Permits, dedication of parkland, securing registered covenants and land trusts. Projects such as the Mission Creek Restoration Initiative and Munson Pond are collaborative efforts to reclaim floodplain, protect fisheries habitat and restore wetland and riparian habitat that is home to rare wildlife species.

Strategic Direction from Imagine Kelowna

The City and community partners recently undertook the most extensive public engagement process to date to create a new community vision for the future. Imagine Kelowna is a vision for building a prosperous and sustainable city in the face of an uncertain future. The City will use Imagine Kelowna to help shape its short and long-term planning priorities and provide the foundation for future strategies, plans and projects. The wording of the Imagine Kelowna draft goals may change, however, the overall direction of the goals was supported by City Council at the March 12, 2018 City Council meeting. Key draft directions from Imagine Kelowna include:

Principle: Smarter

- Take action and be resilient in the face of climate change

Principles: Responsible

- Concentrate on growing vibrant urban centres and limit urban sprawl
- Preserve Okanagan Lake as a shared resource
- Strengthen the protection of our land, water and air resources

Bold leadership and community action will be required to achieve this vision. Firm adherence to the preservation of the Permanent Growth Boundary, waterbodies, riparian areas and steep slopes will be required to protect natural areas, reduce emissions and counteract sprawl. Protection of water quality and quantity is imperative for drinking, agricultural irrigation and fire control.

FAST FACTS

92%

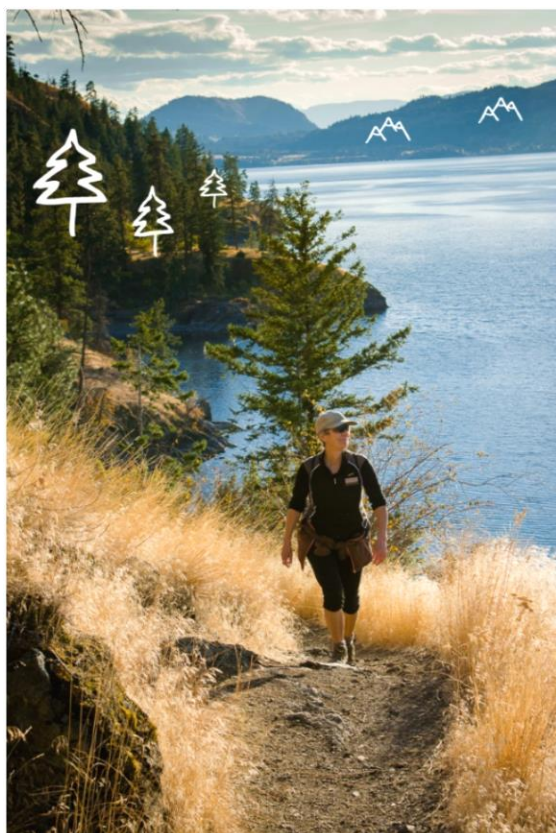
Percentage of riparian areas the City has lost since 1800 to development.

77%

Percentage of broadleaf woodlands the City has lost since 1800 to development.

73%

Percentage of grasslands the City has lost since 1800 to development.



Looking Ahead: Future Trends

Going forward, Kelowna is faced with threats to its natural environment through development pressure, rising land prices, competing objectives as well as the impacts of climate change. Less snowpack, more severe rain events and drier summers are predicted, intensifying the risks for pest damage, flooding, wildfires, and the economic, environmental and health impacts they entail ^{xiv}. Trends show that one in five Canadians will face a flood risk at some level, while 1.8 million households are shown to be at very high risk (Canadians personally shouldering approximately 600 million per year in flooding losses) ^{xv}. Both the anticipated rate of growth and the more extreme weather events ^{xvi} will require collaboration with community partners and residents to share this responsibility.

Current challenges of the 2030 Official Community Plan

Natural ecosystems and species are threatened by development pressure, climate change, and shifting environmental legislation. Development sprawl, habitat loss, and conditions such as fires and floods challenge biodiversity and ecosystem health on multiple fronts. In the face of an uncertain legislative environment and limited resources at higher levels of government, Kelowna must take a leadership role in protecting the resources within its boundaries.

Neglect to protect natural ecosystems, as well as water and air resources will have long term and irreversible consequences to the livability of the city. Impacts will be significant on species, ecosystems, and water resources. As with all other communities, Kelowna has a finite limit to its natural resources – notably having one of the lowest per-person fresh water availabilities in Canada, yet, the summertime water consumption is well above the national average. The urban built form is a large determinant on how many resources we consume per capita, and how that translates into our collective community 'ecological footprint'.

Key Directions for the 2040 Official Community Plan

Planning for the next twenty years will need to put the objectives of sprawl reduction, water, air and ecosystem protection, as well as climate change mitigation and adaption as guiding principles if the City is to maintain the health, beauty and viability of the natural environment residents enjoy, and depend on for economy, health and lifestyle.

Using the foundation of the lessons learned through the successes and challenges in delivering previous environmental policy, and the draft goals from Imagine Kelowna, the following key directions emerge to help inform the City's action for the next 20 years:

- ▶ **Protect natural habitats, slopes and water bodies against development pressures.** Continuous vigilance for the protection of ecosystems, rare species habitats, water bodies, riparian areas and hillsides will be required in order to protect the functions these elements provide in terms of clean air and water. They also



serve a critical role in species adaptation by providing habitat and corridors of at-risk ecosystems as ecosystems change.

- ▶ **Contain sprawl.** Adherence to the Permanent Growth Boundary, and directing development energy to the Urban Core to prevent mass greenfield development will serve to protect natural spaces in the fringe.
- ▶ **Ensure water quality and quantity.** With a growing population, demands on water will increase. More intense weather may cause erosion, debris flows and flooding which affects water quality. Maximizing the retention of natural landscapes will allow rain water to replenish our rivers, lakes, streams, and groundwater. This protects our precious supply of drinking water and to act as a filter for our water.
- ▶ **Invest in green infrastructure.** With increased climate risks and transportation pressures, the challenge will be to accommodate alternative and green infrastructure, including using the urban forest, parks and public space to promote ecological functions xvii, reduce greenhouse gases and provide mitigation for flooding and heat island effects.

- ▶ **Mitigate and adapt to climate habitat threats.** Climate change threats include increased pests, drought, flood events, wildfire and associated air quality impacts. Protected open space can trap and absorb water during heavy rain storms, which can help mitigate or prevent flooding in populated areas. This reduction of flood waters serves to protect our homes, in addition to reducing the strain on local sewer and stormwater infrastructure.



Kelowna has the privilege of having some of the rarest ecosystems in the country, as well as being one of the fastest growing regions in Canada. This gift comes with a responsibility, and the OCP must signal the protection of our natural diversity for the intrinsic values for the benefit of future generations. As such, it will require extraordinary vigilance and prioritization to keep the environment as beautiful and healthy as it is today. For this, Kelowna will need to collaborate with other levels of government, agency partners and community members to achieve conservation outcomes that will benefit our community for generations to come.

Explore the Story Map: [Natural Environment](#) or visit kelowna.ca/ImagineNext to see how you can influence *Our Kelowna as we Grow*, the Kelowna 2040 Official Community Plan update.

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 - xv David Suzuki, 2018. Eco-Assets - Municipal Natural Assets Initiative. <https://davidssuzuki.org/project/eco-assets/>
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