Photo by Adam Taylor

Environmental Values Policy Toolkit

A component of the Regional Framework for Nature-based Solutions on BC's South Coast

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Report Summary

Project Background

The Georgia Basin lowlands of southwest BC host more than 75% of BC's human population and include the Coastal Douglas-fir zone (CDF), home to the largest number of species and ecosystems at risk in the province. Per hectare, forests in the Georgia Basin have among the highest carbon storage capacity of any forest in BC, with those in old growth being some of the highest carbon storing ecosystems in the world. Georgia Basin ecosystems also provide critical ecosystem services, such as supplying water, mitigating floods, improving air quality, and providing salmon habitat, recreation opportunities and climate refugia. As the traditional territory of the Coast Salish and other First Nations, these ecosystems are also important to indigenous food security, and support a multitude of culturally important plants and animals.

Increasing demand for residential development and timber are intensifying pressure on these ecosystems and the services they supply. These pressures are compounding as climate change increases the intensity and frequency of heat events, drought, flooding, and wildfires that threaten the well-being of BC's south coast communities and their capacity and long-range options for adapting to climate change. Local government and First Nations planners are facing these challenges and need access to current mapped information as well as policy guidance so they can plan for climate adaptation and community and ecosystem resilience.

To address this need, in 2022 the Coastal Douglas-fir Conservation Partnership (CDFCP) secured funding from the federal government's Nature Smart Climate Solutions Fund (NSCSF) to develop a regional framework of policies, decision-support tools and incentives for the protection and restoration of nature-based solutions to climate change and biodiversity loss that could be implemented by local government and First Nations in south-west BC.

Nature-based solutions are tools that effectively buffer climate change impacts by:

- storing and capturing carbon;
- reducing the impacts of floods, droughts, erosion, fires, and heat waves;
- sustaining biodiversity and culturally important plants and animals;
- providing indigenous food security; and
- sustaining economically important fish and wildlife populations and valued recreation areas.

The first phase of this project was to undertake conversations with local government and First Nations representatives (the intended end users) and technical specialists to understand the gaps and opportunities in the resources currently available to local governments, First Nations, and ENGOS in relation to:

- climate change mitigation (carbon storage and sequestration);
- climate change adaptation (watershed and wildfire resilience);
- biodiversity conservation; and
- culturally important ecosystems (i.e. habitats that support plants and animals important to indigenous communities).

Following the first phase, the CDFCP partnered with UBC Botanical Garden to deliver the subsequent work since the Garden secured funding to undertake Climate Adaptation Planning and to produce a Biodiversity Atlas. It was identified that many of our objectives aligned and that more could be accomplished working in partnership. The result is the Action for Adaptation Project ("the project").

This project aims to provide local governments and First Nations planners and decision-makers with enhanced mapping (the Biodiversity Atlas), and policy information (the Policy Toolkit in this report) to advance the use of nature-based climate solutions in the Georgia Basin.

The Biodiversity Atlas ("the atlas") aims to provide mapping layers that local government and First Nations planners have indicated they want for land use planning and decision making. The layers are produced at a resolution that is meaningful for their planning and the intent is to provide full coverage of the interest area. The atlas layers include:

- Land cover
- Environmentally Sensitive Areas (ESA)
- Terrestrial carbon
- Species at risk and of cultural significance
- Ecosystem connectivity
- Hydrologically sensitive ecosystems

Report purpose

This report describes policy and guidance materials that are linked to the delivery of nature-based solutions to climate change. It is presented as a toolkit divided into two parts: the First Nations Land Stewardship Toolkit (Part 2 of this report), and the Local Government Policy Toolkit (Part 3 of this report). It is designed to be used by First Nations and local governments to inform planning processes. It also provides case studies that demonstrate the use of mapping and policy to support delivery of nature-based solutions. This report is also meant to supplement the Biodiversity Atlas for land managers and planners who want more depth on the policy tools provided in the Atlas dashboard.

Methods

The information presented in this report was collated through desktop research that focused on examples of how local governments and First Nations have sought to protect the natural environment through their land use plans, strategies, and bylaws when they have had mapping and biological or cultural information to support it. The project team also undertook conversations between 2022 and 2025 with planners and consultants to understand the challenges they have faced with developing and enforcing policy.

It is important to note that applying the recommendations in this toolkit must be tailored to the specific context of the area where they may be implemented. This requires consideration of the rights and needs of interested and affected parties, as well as all applicable provincial and federal legislation. This toolkit is intended to be informational and does not constitute legal advice.

Results for Part 2: First Nations Toolkit

Several tools are available and are currently in use in various forms by First Nations in BC for land and water management, both on reserve and on traditional territories. The tools are described in Section 2 and include: Land Code, Tribal Parks (or Indigenous Protected and Conserved Areas), Forest Resource

Plans, Collaborative Tables, municipal land-use planning, land trusts, First Nations Woodland Licenses, carbon offsetting schemes, Key Biodiversity Areas, and Biosphere Regions. Each of these offers different benefits and trade-offs and it will be up to the individual communities to determine which tools best suit their situation and goals.

Results for Part 3: Local Government Policy Toolkit

Local governments have a unique and critical role to play in managing the risks of a changing climate because of the localized nature of many climate impacts. They are well positioned to implement adaptive measures through land use planning and mechanisms such as zoning or permit provisions.

However, it is important to realize that local governments in BC are not using the full extent of their powers for protecting and restoring the natural environment. This may be due to lack of understanding of their authorities. The Local Government Policy Toolkit therefore provides:

a) A description of the environmental values mapped in the Biodiversity Atlas and their importance, and how these should inform local government policies and actions on biodiversity and climate resilience;

b) Descriptions of federal and provincial legislation that govern local government environmental and climate actions, and descriptions of best management practices that guide these actions (Appendix B – Summary of existing policies);

c) An inventory and assessment of local government regulatory and non-regulatory tools such as OCPs; EDPAs; climate, forest, and biodiversity strategies; and bylaws; and

d) An extensive suite of example policy provisions, performance targets, and indicators that are currently in use or are recommended for use by local governments. These are written in a way that local governments can adopt them into OCPs and other policies to advance biodiversity protection and climate resilience. These are provided in:

   Table 8. Official Community Plans (OCP) policy provisions, sources, targets, and indicators, Appendix C – Example actions/policies for local government biodiversity strategies, Appendix D – Example actions/policies for local government urban forest strategies, and Appendix E – Example actions/policies for local government climate strategies.

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GLOSSARY

Term	Definition
ABSA	Atmospheric Benefit Sharing Agreement: agreements through which BC allocates the right to benefit from the sale of carbon credits on Crown land to a First Nation or other party.
biodiversity	Short for "biological diversity". Refers to living animals and plants and the processes that affect their abundance, expressed at genetic, species and ecosystem levels. The variety of all life on Earth, in all its forms and interactions at different levels.
ecosystem services	The benefits that flow from nature to people. These can be provisioning (e.g. supply of food, clean air, water and materials), regulating (e.g. water and climate regulation, nutrient cycling, pollination, formation of fertile soils), or cultural (e.g. recreation opportunities, inspiration we draw from nature). Natural ecosystems can provide a wide range of these services simultaneously. [1]
ecological integrity	The ability of an ecosystem to support and maintain ecological processes and a diverse community of native organisms
indicator species	Species, either plants or animals, that indicate the condition of ecosystems and habitats. They reveal the possible evidence and impact of environmental change, and indicate the diversity of other species, taxa, or entire communities within an area.
natural assets	Ecosystems or natural features, such as wetlands, forests, and riparian areas, that contribute to the provision of one or more services required for the health, wellbeing, and long-term sustainability of a community and its residents.[2]
green infrastructure	A strategically planned network of natural and semi-natural areas with other environmental features that is designed and managed to deliver a wide range of ecosystem services, while also enhancing biodiversity.[3] For example, urban tree canopy, connected waterways, etc.
nature-based solutions	Nature-based Solutions are actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and

[1] European Commission website, "Green Infrastructure", https://environment.ec.europa.eu/topics/nature-and-biodiversity/green-infrastructure_en, accessed 7 April 2026.
[2] Natural Assets Initiative website, Natural Assets Management, https://naturalassetsinitiative.ca/natural-asset-management/#what_are_na, accessed March 2025.
[3] European Commission website, "Green Infrastructure". https://environment.ec.europa.eu/topics/nature-and-biodiversity/green-infrastructure_en

	biodiversity benefits. [4] An NBS can be as small as a rain garden to filter and slow stormwater drainage, to as large as a living dike that restores the foreshore ecosystems and buffers and protects the shoreline from sea level rise. Nature-based solutions to climate change help society adapt to the impacts of climate change and mitigate greenhouse gas emissions.
range of natural variability	The temporal and spatial distribution of ecological processes and structures prior to European settlement of North America. [5] It refers to the normal range of conditions that a natural environment experiences over time. This can include changes in things like temperature, rainfall, plant growth, animals present as well as disturbance events like wildfire or storms. An important consideration when planning for conservation and climate adaptation is how much a natural landscape can be disturbed or altered before species are lost and desired ecosystem services are compromised; i.e. how much needs to be conserved for the long-term viability of species and ecosystems. The acceptable threshold of disturbance varies across ecosystems.
resilience	In the context of climate: the ability of an ecosystem, society or organization to anticipate, prepare for, and respond to the impacts of climate change. It is built on understanding climate-related risks and vulnerabilities and implementing the necessary measures to manage these risks effectively. In ecosystems, higher biodiversity leads to resilience through redundancy.

[4] IUCN. 2020. IUCN Global Standard for Nature-based Solutions: A user-friendly framework for the verification, design and scaling up of NBS. Gland, Switzerland. 30 pp. Available at https://portals.iucn.org/library/sites/library/files/documents/2020-020-En.pdf .

[5] Wong, C., Iverson, K. 2004. Range of natural variability: Applying the concept to forest management in central British Columbia. Extension note in BC J Ecos and Mgmt, Vol. 4 No. 1. Available at https://jem-online.org/index.php/jem/article/download/258/177/1672

PART 1 – BACKGROUND AND METHODS

1 Overview: Nature-based solutions

Healthy, functioning ecosystems are our frontline defence to mitigate and adapt to the effects of climate change. Nature-based solutions (NBS) are actions that support the conservation and restoration of ecosystems and natural areas in ways that also benefit society (Figure 1).

Figure 1. IUCN's nature-based solutions systems [6]

NBS are tools that effectively buffer climate change impacts by:

- storing and capturing carbon;
- reducing the impacts of floods, droughts, erosion, fires, and heat waves;
- sustaining biodiversity and culturally important plants and animals;
- providing indigenous food security; and
- sustaining economically important fish and wildlife populations and valued recreation areas.

[6] IUCN. 2020.

Local communities, governments and Indigenous Peoples are concerned about the impacts of climate change and biodiversity loss on ecosystems and human well-being. Governments, First Nations, industry and ENGOS need improved coordination, as well as policy and science-based decision support to incentivize nature-based solutions. Support payments for ecosystem services can help to overcome the barriers to conserving biodiversity and natural assets posed by escalating land and timber prices amidst a complex land ownership and management landscape, where various types of land title or tenure can occur within one jurisdiction.

The Action for Adaptation Biodiversity Atlas ("the Atlas") and this accompanying policy toolkit aim to provide science-based tools that can be used by local governments and First Nations to plan for climate change resilience and biodiversity conservation using nature-based solutions.

Mapped ecosystem information that the Atlas provides is essential to supporting bylaws that pertain to biodiversity and climate adaptation. It provides local governments with an understanding of the location, size, and current state of environmentally sensitive areas (ESAs) within their land base. Mapping ESAs creates a common understanding of the importance of ecosystem values from site specific to landscape scales. This information facilitates discussions between staff and landowners about appropriate land development, protection, and best practices.

2 Project Background

Southwest BC's Georgia Basin lowlands host more than 75% of BC's population and include the Coastal Douglas-fir zone (CDF), home to the largest number of species and ecosystems at risk in the province. Per hectare, forests in the Georgia Basin have among the highest carbon storage capacity of any forest in BC, with those in old growth being some of the highest carbon storing ecosystems in the world[1]. They also provide critical ecosystem services for human well-being, such as supplying water, controlling floods, improving air quality, and providing salmon habitat, recreation opportunities, and climate refugia. As the traditional territory of the Coast Salish and other First Nations, these ecosystems are important for indigenous food security, and support a multitude of culturally important plants and animals.

Increasing demand for residential development and timber are intensifying pressure on the region's natural assets and the ecosystem services they supply. These pressures are compounding as climate change increases the intensity and frequency of heat events, drought, flooding, and wildfires that threaten the well-being of BC's south coast communities and their capacity and long-range options for adapting to climate change.

In 2022, the Coastal Douglas-fir Conservation Partnership (CDFCP) secured funding from the federal government's Nature Smart Climate Solutions Fund (NSCSF) to develop a regional framework of policies, decision-support tools and incentives for the protection and restoration of nature-based solutions to climate change and biodiversity loss that could be implemented by local government and First Nations in south-west BC. The first phase of this project was to undertake conversations with local government and First Nations representatives (end users) and technical specialists to understand the gaps and opportunities in the resources currently available to local governments, First Nations, and ENGOS in relation to:

- climate change mitigation (carbon storage and sequestration);
- climate change adaptation (watershed and wildfire resilience);
- biodiversity conservation; and

- culturally important ecosystems (i.e. habitats that support plants and animals important to indigenous communities).

Following the first phase, the CDFCP partnered with UBC Botanical Garden to deliver the subsequent work since the Garden secured funding to undertake Climate Adaptation Planning and to produce a Biodiversity Atlas. It was identified that many of our objectives aligned and that more could be accomplished working in partnership. The result is the Action for Adaptation Project ("the project").

This project aims to provide local governments and First Nations planners and decision-makers with enhanced mapping and policy tools to advance the use of nature-based climate solutions in the Georgia Basin. The project area is shown in Figure 2.

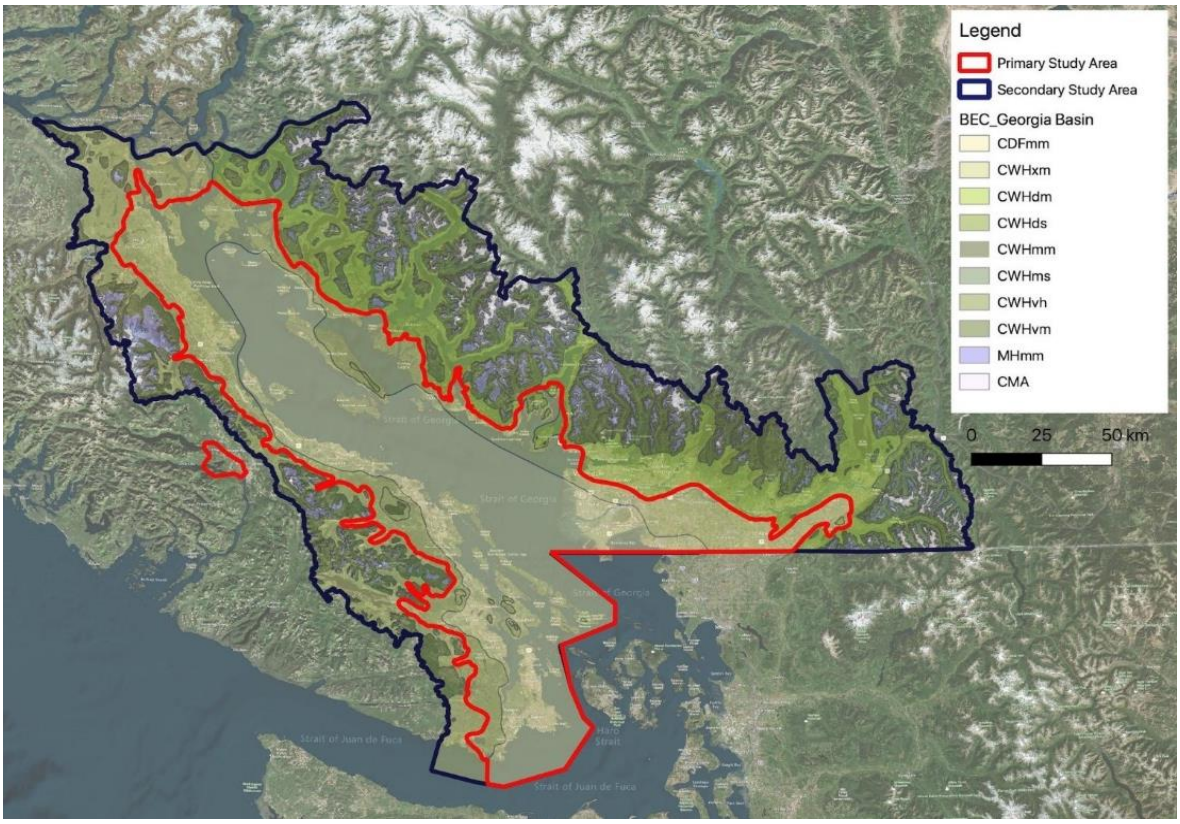

Figure 2. The project area comprises primary and secondary areas.

The red line boundary indicates the working area of the CDFCP which includes the Coastal Douglas-fir moist maritime (CDFmm) and the Coastal Western Hemlock eastern very dry maritime (CWHxm1) biogeoclimatic zones. The blue line boundary represents the area for the Action for Adaptation Project, which extends to the top of the catchments that feed into the CDFmm and CWHxm1.

The Biodiversity Atlas ("the atlas") aims to provide mapping layers that local government and First Nations planners have indicated they want for land use planning and decision making. The layers are produced at a resolution that is meaningful for their planning and the intent is to provide full coverage of the interest area. The Atlas layers include:

- Land cover
- Environmentally Sensitive Areas (ESA)
- Terrestrial carbon
- Species at risk and of cultural significance
- Ecosystem connectivity
- Hydrologically sensitive ecosystems

3 How to use this report

This report describes policy and guidance materials that are linked to the delivery of nature-based solutions to climate change. It is presented as a toolkit and is divided into two parts: the First Nations Land Stewardship Toolkit (Part 2 of this report), and the Local Government Policy Toolkit (Part 3 of this report). It is designed to be used by First Nations and local governments to inform planning processes. It also provides case studies that demonstrate the use of mapping to support delivery of nature-based solutions and, where applicable, the policy that was used to support delivery of those solutions. This report is also meant to supplement the Biodiversity Atlas for land managers and planners who want more depth on the policy tools provided in the Atlas dashboard.

4 Methods

4.1 Research approach

The information presented was collated through desktop research that focused on examples of how local governments and First Nations have sought to protect the natural environment through their land use plans, strategies, and bylaws when they have had mapping and biological or cultural information to support it. The project team also undertook conversations between 2022 and 2025 with planners and consultants to understand the challenges they have faced with developing and enforcing policy.

To read detailed comments shared during conversations and workshops, see the following reports:

- Spatial Data Review – Complied Results – Round 1 DRAFT (2022)
- Spatial Data and Mapping – Results – Round 2 – Summary Report (2023)
- Biodiversity Mapping in Southwest British Columbia: Solutions Workshop (2022)
- Biodiversity Mapping Workshop Report (2023)

4.2 Caveats

Applying the recommendations in this toolkit should be tailored to the specific context of the area where they may be implemented. This requires consideration of the rights and needs of First Nations, and those of interested and affected parties, as well as all applicable provincial and federal legislation. This toolkit is intended to be informational and does not constitute legal advice.

4.3 Mapping layer definitions

Table 1 provides the definitions for each of the mapping layers used in the atlas and how they were derived.

Table 1. Definitions of the mapping layers

Mapping layer	Definition
Land cover	A land cover map divides the landscape according to its biophysical characteristics. The Action for Adaptation land cover mapping uses 18 classes including water, cropland, pasture/hay, shrubs, and broad leaved trees, which align with the classifications in the North American Land Change Monitoring System.

	To identify different land cover types, the UBC Okanagan applied a machine learning model which pulls from high resolution Planet imagery (3 m) and LiDAR data. The model was trained initially through a desk top review using aerial photos, and then through field verification using community science and the Survey 123app. The final land cover product will be available in 2025.
Terrestrial carbon	The terrestrial carbon layer is focused on forest and tree cover. The layer has been generated from Planet imagery and LiDAR data, and uses field verification data collected by the Province of BC and the Action for Adaptation team. The carbon raster layer will present forest carbon at a 15 m resolution for the whole study area. Although LiDAR is available for large parts of the study area, there are areas that have not been collected and this will impact on the accuracy of this product in those areas. The final terrestrial carbon product will be available in 2025.
Environmentally Sensitive Areas, including Hydrologically Sensitive Ecosystems	ESAs have been mapped from the provincial Terrestrial Ecosystem Mapping (TEM), Vegetation Resource Inventory (VRI), Sensitive Ecosystem Inventory (SEI), and the Old Growth Strategic Review (OGSR) mapping layers. These data layers provide detailed information that local governments and First Nations often have not been able to access. The Action for Adaptation project uses these data layers to extend coverage of the SEI layers generated in the 1990s, the coverage of which was restricted to coastal CDFmm and CWHxm1. The project also draws on SEI mapping completed more recently by local governments. The mapping layers produced include: • Potential Ecological Communities at Risk • Potential Sensitive Ecosystems • Climate micro-refugia • Hydro-riparian As this mapping layer is completed at a 1:20,000 resolution, the mapping products will not have the same resolution as the terrestrial carbon and land cover layers. The project team has visually reviewed the data to remove areas that have been harvested and developed as of 2025. The intent is that these layers provide a flagging tool that local governments and First Nations can provide to a Qualified Environmental Professional (QEP) hired by a developer to assess the state of the ecosystem on the ground, as a condition of a development permit. Final products available for the Sunshine Coast, Vancouver Island and the Gulf Islands in 2025. The remaining area will be generated in 2026.
Species at risk and of cultural significance	The species at risk and of cultural significance layer will draw on species records held within the Global Biodiversity Information Facility (GBIF). GBIF consolidates dataset collected through traditional science and through community science. This information should be overlaid on the

	Environmentally Sensitive Areas and Ecosystem Connectivity layers to identify ecosystems for protection through land use planning. The final product will be available in 2026.
Ecosystems connectivity	The Ecosystem Connectivity layer will highlight features on the landscape that enable species to migrate between key habitat areas (hubs). The initial layer will be generated by circuit theory, but information of small ecosystems, such as Garry oak or urban waterways, will be overlaid so that the final output presents connectivity corridors. The layers will also seek to highlight pinch points for species movements which could be the focus of restoration effort in the future. The final product will be available in 2026.

4.4 Importance of the atlas layers to planning

Good land stewardship in is especially imperative because the ecosystems in this region are uniquely adapted, like nowhere else in Canada, to the drought prone climate of this region. Because this is a highly desirable place to live, these ecosystems are also increasingly rare, due to development. Retaining these ecosystems in a healthy state offers the best chances of climate resilience.

The 2023 provincial *Housing Statutes (Residential Development) Amendment Act* ("Bill 44"; discussed in section 3.3.4) places greater pressures on these ecosystems, and on natural areas and biodiversity features. Understanding what's on the ground and the implications of development for biodiversity and climate resilience is a necessary first step, before development decisions are made. With informed land use planning, local governments can help steward these areas to enhance nature's ability to deliver a wide range of ecosystem services.

This policy toolkit aims to create links between what planners do and the fundamental goals of climate resilience and biodiversity protection, using the atlas layers as information to guide decisions. To achieve this, it is necessary to understand why the environmental values represented in the atlas layers are important. Table 2 lists the atlas layers and describes their environmental values and importance.

Table 2. Using the Biodiversity Atlas layers in planning

Terrestrial carbon
The focus of the carbon layer is on the forests of southwest BC, which includes standing live and dead timber, woody debris on the ground, soils and roots. Knowing the sources and volume of forest carbon in an area and quantifying its loss under different development scenarios will help planners make informed choices, support compliance with municipal climate change strategies, and can be useful if applying for carbon credits where possible to do so.
Land cover
Using mapping to see current types and quantities of natural land cover ~~is~~ a powerful way to inform planning that accounts for the cumulative effects of development. Comparing existing data with previous mapped layers can help reveal how and where land cover has changed over time. This information can be used to make land use and zoning decisions that retain and enhance ecosystem services and that leverage opportunities for nature-based solutions, rather than further erode them.

Environmentally Sensitive Areas
Environmentally Sensitive Areas (ESAs) are important ecosystems that support at-risk plant and animal species. Due to decades of intensive forest harvesting and development, especially in lower elevations along the coast and in valley bottoms, many of southwest BC's ecological communities are at risk of being lost, particularly old forest ecosystems. Many of these ecosystems will be further imperilled by climate change. Within municipal jurisdictions, loss of sensitive ecosystems is the result of legal and permitted activities such as urban and industrial development. ESAs are priorities for conservation and inclusion within conservation networks due to their provincial and regional scarcity, fragility or vulnerability to disturbance, and also their value to biodiversity.
Species at risk and culturally significant species
Species at risk are plants and animals that are in danger of becoming extinct or extirpated from Canada. ESAs often correlate closely with the habitats of species at risk. As such, species at risk benefit from protection of sensitive ecosystems. Protecting natural areas and ensuring sufficient connectivity among ESAs for the long term through zoning, designating parks or other bylaws, will contribute to the recovery of species at risk and prevent additional species from becoming at risk. Indigenous Peoples have indicated that the term "species at risk" does not express their world view of connectedness between species and places, and that it excludes cultural and spiritual values. The term "culturally significant species" is a better way of expressing those values. These species may not necessarily be listed as species at risk by the federal government, but declines in their abundance have made these species increasingly difficult to find for food and other cultural practices. Protecting ecosystems that contain habitat for all of these species is essential for their survival.
Ecosystem connectivity
In a municipal setting, ecosystem connectivity refers to the degree to which lands or riparian areas are connected to larger areas of intact habitats and support a broad range of species. Ecosystem connectivity is vital for facilitating movements of wildlife populations, maintaining species diversity, and maintaining high-quality habitats. Climate change and human development threaten ecosystem connectivity by disconnecting, fragmenting and changing species' habitat availability and causing ecosystem shifts. The goal is to protect and enhance connectivity so the value of natural areas and their ability to support as many species as possible is maximized. Connectivity patches or corridors should be as large as possible to ensure their resilience to disturbances and to support as many species as possible. Retaining and enhancing connectivity does not only benefit wildlife, it also benefits the human community by providing ecosystem services, such as flood mitigation, temperature and wind moderation, shade, and soil retention. Connectivity usually requires retaining existing natural areas that are in good ecological condition and restoring connectivity between important ecosystems. It can also be realized with good quality ecological restoration of underutilized green spaces, such as turfed areas in parks.
Hydrologically sensitive ecosystems
These refer to riparian areas, wetlands of all types, and marine estuaries and shorelines. They provide habitat for aquatic and tidal plant and animal species as well as breeding and nesting habitat for birds; and food, shelter, and breeding habitat for a range of vertebrate and invertebrate species. These areas are often essential to connectivity corridors and are high in biodiversity. They provide

ecosystem services such as flood mitigation, storm surge protection, and water storage and filtration, making them an especially valuable natural asset.

Retaining connections between streams and waterbodies is essential to the integrity of hydrologically sensitive ecosystems. Several municipalities have restored connectivity by removing barriers to water flow. Opening up and restoring previously buried watercourses ("daylighting") can significantly improve riparian areas. Fish bearing streams, spawning and rearing areas as well as First Nation fishing sites and culturally important areas should be protected and kept free from contaminants. The Provincial government mandates protection of a riparian buffer zone along streams. Shoreline habitat should also be retained or restored if it has been disturbed.

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PART 2 LAND STEWARDSHIP TOOLKIT FOR FIRST NATIONS

"We are surrounded by relatives, not resources." —Daniel R. Wildcut

1 Overview

The following sections provide high level descriptions of several tools currently used by First Nations in BC for land and water management, both on reserve and on traditional territories. Many online resources are also provided, along with case studies, with a focus on the Action for Adaptation project region (Figure 2). These are offered as inspiration for creative solutions.

A common thread that is evident in the case studies, is the fundamental importance of implementing Indigenous law, and rights and title, and building relationships. Parties might come to the table in disagreement, but by focusing on common ground, collaboration, commitment, and dispute resolution, relationships can be built, and agreements can follow. Experience shows that the integration of Indigenous law and shared decision-making substantially reduces conflicts, and fosters relationships that advance Indigenous stewardship, learning, and more effective decision-making in the face of present and future climate challenges. [7]

2 Existing tools to leverage

These tools are presented in order of those that offer the greatest self-determination to the least. Each may only take you part of the way. Use them as stepping-stones for your vision. Take into consideration the economic, fiscal, legal, and political contexts. Consider where you want to end up and strategize to determine the most efficient way to get there.

2.1 Land Code

2.1.1 Description

As one of many ways of enabling First Nations to manage their own lands, the Land Code offers the greatest autonomy. Under the *Framework Agreement on First Nation Land Management Act* (FNLMA), the federal government transferred to First Nations the right to enact a Land Code and manage and pass laws related to reserve lands. A Land Code is a way for First Nations to independently manage reserve lands and resources. It is a document created by First Nation communities to replace the land management provisions of the *Indian Act*.

To initiate the process, a First Nation first becomes a signatory to the *Framework Agreement on First Nation Land Management*, and then has the ability to create a Land Code that outlines how the community will work together to develop laws and policies for governing and managing their reserve lands and resources.

[7] Innes, L., Lloyd-Smith G., 2021, Indigenous Laws in the Context of Conservation, https://www.wcel.org/sites/default/files/publications/indigenouslawsinthecontextofconservation_mar2021_final_web.pdf, accessed 25 Oct 2024.

Once a Land Code is drafted and approved by the community, it becomes the basic land law of the First Nation. When it comes into effect, approximately 44 sections of the *Indian Act* that pertain to land management no longer apply, and Canada is no longer involved in the decision making of the First Nation's land and resources. Canada continues to hold title to the land but will have no management authority over the land. Instead, control of these aspects is recognized as under the governance authority of the First Nation. The Land Code does not have to be approved by a Minister or any federal department. The Framework Agreement is not a treaty and does not affect existing treaty or other constitutional rights of the First Nations. [8, 9]

The Framework Agreement provides First Nations with all the legal status and powers needed to govern and manage their lands and resources. While First Nations will not be able to sell their land, they will be able to lease or develop their lands and resources, subject to any limits imposed by their own community Land Code.[10]

There are more than 50 Land Codes in effect in BC and about 26% are in the project area. For a complete list in the project area, see Appendix A. Links to individual First Nations signatories can be found there and on the Lands Advisory Board's Land Codes signatories map.

The Lands Advisory Board provides several resources pertaining to Land Code, including a model Land Code (2021) that can be customized to the specific wishes of a community, examples of existing land codes, and steps in the process. The following sections offer some key considerations to communities who wish to investigate preparing a Land Code.

A preparatory or companion process to a Land Code is development of a land use or land relationship plan, which outlines how a First Nation intends to manage their land, including zoning for activities such as residential, commercial, or conservation. 2.3

2.1.2 Related legislation

The original ratifying legislation of the Framework Agreement was the *First Nations Land Management Act* (FNLMA), passed in June 1999. However, the FNLMA was repealed and replaced by the *Framework Agreement on First Nation Land Management Act* (FAFNLMA) in December 2022. The change was initiated by the signatory First Nations of the Framework Agreement to correct inconsistencies in the FNLMA and to provide clear and concise ratifying legislation that emphasizes the central importance of the First Nation-driven Framework Agreement.

2.1.3 Key considerations

It is important to note that the Framework Agreement applies only to reserve lands and does not deal with territories and redistribution of land and resources. However, under a Land Code, a First Nation has the power to manage its reserve land. It may exercise the powers, rights and privileges of an owner [11] in

[8] Lands Advisory Board website, "Land Codes", accessed 7 Oct 2024, https://labrc.com/resource/land-codes/>
[9] JFK Law LLP website, "What is the First Nations Land Management Act?", https://jfklaw.ca/what-is-the-first-nations-land-management-act/, accessed 7 Oct 2024.
[10] Lands Advisory Board website, "Operational Phase – Land Code Implementation", https://labrc.com/getting-started/operational-first-nation/, accessed 7 Nov 2024.
[11] Although Canada still holds title to the land.

relation to the land, grant interests, rights or licences in relation to the land, manage the land's natural resources, and receive and use all moneys acquired under its Land Code.

A Land Code makes it clear that a First Nation has the legal capacity to enter into contracts, borrow money, expend and invest money, and be a party to legal proceedings with regard to the land.[12]

A Land Code enables a First Nation to enact laws regarding interests, rights or licences in relation to reserve land, as well as the development, conservation, protection, management, use and possession of reserve land.

Advantages of switching from the *Indian Act* to a Land Code can include:

- Removal of the First Nation's lands from the *Indian Act* under the 44 sections that pertain to land management
- Removing the Government of Canada from reserve land management
- Land law-making powers with no need for Ministerial approval
- Protecting the signatory First Nations' reserve land base
- Ability for the First Nation to protect the environment
- Right to manage reserve land and resources on that land
- Inclusion of on and off reserve members in important decisions
- Increased accountability to members
- Protecting the applicable reserve lands from expropriation
- Protecting cultural heritage
- Supporting potential funding opportunities
- Supporting economic development and on-reserve job creation
- Improved efficiencies as *Indian Act* accountabilities are removed.

Drawbacks may include environmental liability; increased costs and effort to develop laws and policies; and the offloading by the Crown of fiscal, fiduciary, and environmental responsibilities. A Land Code does not negate the burden of the social and cultural legacies of the *Indian Act* system, but it can be a large step toward community healing. [13]

2.1.4 Case studies

Given the number of First Nations now functioning under the framework agreement approach, communities that are considering land code may benefit from contacting First Nations who have signed the Framework Agreement, and from the resources noted above. The case studies below help show the complexities of this process.

kʷikʷəƛ̓əm/Kwikletlem Land Code

[12] JFK Law LLP website, "What is the First Nations Land Management Act?"

* Many Indigenous groups prefer the term "Tribal Park" rather than IPCA because the latter originates with non-Indigenous governments and groups. Most references currently use IPCA.

[13] Jobin, S & E. Riddle. First Nations Land Management Regime: Pros and Cons. From the Yellowhead Institute Special Report, *The Rise of the First Nations Land Management Regime in Canada: A Critical Analysis*. 2 pp, https://yellowheadinstitute.org/wp-content/uploads/2019/09/fnlma-pros-and-cons-overview.pdf, accessed 7 Oct 2024

In July 2020, the kʷikʷəƛ̓əm membership ratified its own Land Code. This gives kʷikʷəƛ̓əm the authority to manage and make decisions regarding the development and use of its lands on-reserve. This means kʷikʷəƛ̓əm now has the power to enact laws regarding the protection, development, use, possessions and management of its reserve lands and natural resources, and thereby honour its responsibility to preserve, protect, and enhance kʷikʷəƛ̓əm land, waters, resources, heritage, language and culture. [14]

Sema:th Land Code

The Sema:th Land Code was enacted by the Sumas First Nation in November 2011 under the original FNLMA. Under its Land Code, Sema:th First Nation Council has the power to make laws in respect of the development, conservation, protection, management and administration of Sema:th Lands; these are Sema:th Laws.

Following enactment of their Land Code, in 2013 Sema:th ratified its Land Use Plan which is based on an assessment of present conditions in Sema:th as well as projected land use needs of the community. The Sema:th Land Use Plan is the principal document within the community for land development and land use matters, and includes comprehensive policies that Sema:th uses to ensure that development proceeds in a manner that respects the vision and goals of Sema:th. See section 2.3 for more about land relationship/use plans.

2.2 Tribal Parks / Indigenous Protected and Conserved Areas

2.2.1 Description

In contrast to most parks and protected areas in Canada, Indigenous Protected and Conserved Areas (IPCA) or Tribal Parks are conservation areas that are owned and governed or co-governed by Indigenous communities, often reflecting Indigenous laws and legal orders. IPCAs are a way of recognizing that Indigenous Peoples have successfully governed and conserved the lands and resources in their territories since time immemorial. Guided by Indigenous laws and traditional knowledge, IPCAs offer an opportunity to revitalize Indigenous stewardship models and prioritize biodiversity, conservation, and cultural connection.[15]

IPCAs were recognized in 2017 by the Government of Canada as a means of reaching Canada's Aichi Targets under the International Convention on Biological Diversity, and endorsed by the 2018 Indigenous Circle of Experts (ICE) in their federal government report, "We Rise Together". The ICE defined IPCAs as a collective term for lands and waters, including marine areas, where Indigenous governments have the primary role in protecting and conserving ecosystems through Indigenous laws, governance and

[14] kʷikʷəƛ̓əm First Nation website, "Land Code", https://www.kwikwetlem.com/land-code.htm, accessed 4 Oct 2024.

[15] SC'IA⁄NEW Tribal Park: An Indigenous Protected Area website, , http://www.scianewtribalpark.ca/, accessed 23 Nov 2024.

knowledge systems. [16] IPCAs may be co-designated as national or provincial parks or wildlife areas, but Indigenous Nations are always co-creators, and they are still grounded in Indigenous law. [17]

While IPCAs can take many forms, all generally share three elements: (1) they are Indigenous-led; (2) they represent a long-term commitment to conservation; and (3) they elevate Indigenous rights and responsibilities.[18]

The following sections provide answers to key questions about IPCAs. They are drawn from several primary resources referenced below.

2.2.2 Why establish an IPCA?

Creating an IPCA can result in repairing relationships with a Nation's lands and waters; revitalizing or maintaining culture and language; protecting culturally significant species; or providing an alternative vision for the territories. Other reasons may include increasing the visibility of Indigenous jurisdiction and authority; supporting decision-making; asserting rights and responsibilities in their territories; and protecting threatened cultural keystone species such as salmon, blueberries, or moose.[19]

Establishing an IPCA can generate revenue for a First Nation community through new business opportunities, such as eco-tourism, and carbon related financing. 2.2.9

2.2.3 Where can IPCAs be established?

IPCAs can be declared anywhere within the territory of the First Nation government or community considering one. This includes, but is not limited to, shared territories, designated reserve lands, rural areas, cities and towns, and watersheds.

The location and size of IPCAs are determined by the Indigenous Nation and/or governments establishing IPCAs in their territories. They can include lands and waters or a mix of both. IPCAs may include lands where the provincial or federal government have asserted jurisdiction—for example, crown or public lands and provincial or territorial parks and protected areas, as well as private lands.

There are no known IPCAs in Canadian cities or towns yet, but efforts to create space for Indigenous languages, knowledge systems, and practices are happening, often in collaboration with federal, provincial, territorial, or municipal governments. [20]

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[16] Indigenous Circle of Experts (ICE), 2018, "We Rise Together: Achieving Pathway to Canada Target 1 through the creation of Indigenous Protected and Conserved Areas in the spirit and practice of reconciliation", 2024, https://publications.gc.ca/site/eng/9.852966/publication.html, accessed 7 April 2026.

[17] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

[18] Indigenous Leadership Initiative website, "Indigenous Protected and Conserved Areas", https://www.ilinationhood.ca/indigenous-protected-and-conserved-areas, accessed 4 October 2024.

[19] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

[20] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

2.2.4 What are the criteria?

Any Indigenous Nation, community, or government can establish an IPCA following a pathway of their choosing that is based on their own priorities, visions, values, legal frameworks, governance, and knowledge systems for their territories and communities. IPCAs can be established through collaboration among several Indigenous governments and/or with Canadian governments, but it is not necessary for IPCAs to collaborate with any federal or provincial governments either for establishment or management.

Similarly, there is no template for what an IPCA should look like, how it should function, how large it should be, or how it will be managed, and there are no specific criteria that must be met for an IPCA designation.[21] However, if a First Nation chooses to pursue legal protection for all or a portion of its IPCA, then some measure of compliance with the criteria of the protection mechanism, such as a national park or a provincial conservancy will need to be negotiated.

2.2.5 Are IPCAs legally recognized?

Indigenous Nations, their communities, and/or governments hold the inherent right to designate IPCAs in their territories. They do not require permission, support, or recognition from federal or provincial governments to do so. Indigenous Nations, their communities, and/or governments have the primary role in determining the objectives, boundaries, management plans and governance structures for IPCAs as part of their exercise of self-determination.

Creating an IPCA does not require giving away lands and waters to federal or provincial governments, even when a First Nation chooses to collaborate with those governments. Even in cases where Indigenous Nations choose to co-manage their IPCAs with governments or choose to have their IPCAs designated as protected areas under Canadian legal systems, they are not required to cede their territories to the government of Canada.

As of 2023, there is no specific legislation for IPCAs under Canadian law, nor has existing protected area legislation been amended to include IPCAs. However, there are several legal pathways for recognizing Indigenous-led conservation and stewardship initiatives under federal and provincial laws. Some First Nations may wish to layer federal or provincial laws in addition to their own laws for additional protections, but this may come with limitations on how the IPCA can or cannot be used. [22]

2.2.6 Legal options: conservancies

Because IPCAs are not captured explicitly under federal or provincial laws, they live in a legal grey zone. While First Nations can and do establish IPCAs under their own laws and inherent authority, this does not mean the Crown will recognize the IPCA, and it may not have protection within the Canadian legal

[21] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

[22] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

system. This may leave IPCAs vulnerable to activities that are not aligned with the objectives of the First Nation or its community, but that are permitted under federal or provincial laws. [23]

In BC, provincial legislation allows for four different types of protected area designations: provincial parks, recreation areas, ecological reserves, and conservancies. Each designation places different constraints on activities and uses. None of these designations allows for Indigenous leadership in managing IPCAs; however, conservancies can be created and protected under the *Protected Areas of British Columbia Act* for four purposes that align with the intent of IPCAs:

1. The protection and maintenance of biodiversity and the natural environment;
2. The preservation and maintenance of social, ceremonial, and cultural values of First Nations;
3. The protection of recreational values; and
4. The sustainable development of natural resources.

For a comprehensive comparison of the pros and cons of different classes of protected areas in BC and implications for IPCAs, see A Review of Crown Legislation: British Columbia. [24]

2.2.7 Legal options: DRIPA

Opportunities for establishing and managing IPCAs in BC could be enhanced by the provincial *Declaration on the Rights of Indigenous Peoples Act* (DRIPA) [25], passed in 2019. Overall, DRIPA requires the province to work with Indigenous Peoples to ensure that the laws of BC are consistent with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). This means that BC's laws must align with the sections in UNDRIP that support the creation and management of IPCAs. DRIPA also allows government officials to negotiate and enter into agreements with Indigenous governing bodies. The agreements can offer joint decision-making powers under provincial law or require that consent from Indigenous Peoples is gained prior to provincial land-use decisions. This could allow First Nations to negotiate with the province to collaboratively manage IPCAs with Indigenous authority. [26]

2.2.8 IPCA partnership models

In cases where a First Nation prefers to collaborate with federal or provincial governments or other partners, they may consider adopting one of a variety of shared decision-making, joint management, or advisory mechanisms. These might be defined by constitutional agreements or other constructive arrangements between the parties. Such arrangements can also facilitate establishing other types of protected areas. Most partnership models take one of the following forms: [27]

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[23] Tomkinson, K, 2024, Frequently Asked Questions about Indigenous Protected and Conserved Areas (IPCAs), in IPCA Knowledge Basket website, "Resources", https://ipcaknowledgebasket.ca/wp-content/uploads/2024/07/IPCA-FAQs-FINAL-JULY-2024-1.pdf, accessed 21 Oct 2024.

[24] IPCA Knowledge Basket website, "A Review of Crown Legislation: British Columbia", https://ipcaknowledgebasket.ca/resources/review-of-crown-legislation-british-columbia/, accessed 21 April 2026.

[25] *Declaration on the Rights of Indigenous Peoples Act*, [SBC 2019] CHAPTER 44, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044

[26] IPCA Knowledge Basket website, "A Review of Crown Legislation: British Columbia", https://ipcaknowledgebasket.ca/resources/review-of-crown-legislation-british-columbia/

[27] Indigenous Circle of Experts (ICE), 2018, "We Rise Together: Achieving Pathway to Canada Target 1 through the creation of Indigenous Protected and Conserved Areas in the spirit and practice of reconciliation", 2024, https://publications.gc.ca/site/eng/9.852966/publication.html, accessed 7 April 2026.

- *Indigenous government/Crown government partnerships* (including federal, provincial, territorial, or local), which emphasize cooperation and developing agreement to recognize, establish and/or manage a protected area – see Great Bear Rainforest case study;
- *Indigenous government/non-governmental partnerships,* which may include industry, land trusts or conservation organizations, and are often conducive to the acquisition of private properties for conservation purposes;
- *Hybrid partnerships*, which include multiple parties (both government and non-government) that work collaboratively to resource and manage protected or conserved areas through a collaborative agreement where all roles are clear – see SC'IA⁄NEW Tribal Park case study; or
- *Sole Indigenous governance*, where land management decisions and actions for protection or conservation purposes are made unilaterally by the First Nation about Treaty lands, reserves, Aboriginal title, etc.

2.2.9 Where to find help setting up an IPCA

Nature for Justice is an organization that helps Nations assess the potential of their IPCA for nature-based solutions and carbon financing. The also help create just partnerships for catalytic and sustainable financing for IPCAs. Audience: Indigenous Nations and Communities in Canada interested in exploring the role of NbS and carbon to finance long-term management or expansion of IPCAs (early ideation stage).[28]

IISAAK OLAM Foundation is an Indigenous led organisation whose aim is to share knowledge and build capacity for IPCAs. They share this knowledge through their IPCA knowledge basket which provides stories of other communities relevant to the development of IPCAs and resources relating to a broad range of subjects such as funding, frequently asked questions about IPCAs, and bringing Indigenous worldviews.

2.2.10 IPCA Case studies

In addition to the case studies highlighted below, a report by the David Suzuki Foundation, "Tribal Parks and Indigenous Protected and Conserved Areas: Lessons learned from B.C. examples" (Plotkin 2018) summarizes the experiences of several First Nations that have established Tribal Parks or IPCAs. [29]

Gwaxdlala/Nalaxdlala Great Bear IPCA

After more than two years of gathering information, developing its own management plans, and securing support from the community, on November 29, 2021, the Mamalilikulla First Nation (MFN) declared the Gwaxdlala/Nalaxdlala (Lull Bay/Hoeya Sound) area of Knight Inlet an IPCA. The Mamalilikulla's goals for its IPCA are a collaborative governance approach to:

- Protect, restore, and maintain unique habitat and culturally significant species;
- Protect, restore, and maintain MFN cultural connection to the land, sea, and sky;

[28] Nature for Justice website, "Indigenous-Led Conservation in Canada", https://www.nature4justice.earth/initiatives/indigenous-led-conservation-in-canada/, accessed 12 Dec 2024.
[29] Plotkin, R. 2018. Tribal Parks and Indigenous Protected and Conserved Areas: Lessons learned from B.C. examples. Report prepared by the David Suzuki Foundation. https://davidsuzuki.org/wp-content/uploads/2018/08/tribal-parks-indigenous-protected-conserved-areas-lessons-b-c-examples.pdf, accessed 20 Dec 2024.

- Provide ecosystem management-based economic opportunities for community benefit;
- Protect and maintain MFN food security;
- Protect important archaeological and cultural sites; and
- Incorporate integrated, holistic approaches in IPCA planning and management.

The 10,416-hectare IPCA includes land and marine components: the land portion contains three watersheds that are currently managed under the Great Bear Rainforest Land Use Order and carbon project, 2.6.3 and the 2,123 ha marine area is proposed as a new site in the draft network of Marine Protected Areas in the Northern Shelf Bioregion.

The journey to reach the IPCA Declaration was a long and highly complex one that involved countless hours of community member meetings, compiling background documents, commissioning new studies, and developing marine and watershed management plans for the area.[30]

The experience of the Gwaxdlala/Nalaxdlala Great Bear IPCA process teaches that communities considering an IPCA need to be prepared for a significant demand on human and financial resources, especially in the early stages. However, they might also find the process is simpler because many First Nations own forest tenures, and because of precedents set by case law across BC. First Nations are in a better position to lead their own IPCA process.

Proposed SC'IA⁄NEW Tribal Park

The proposed SC'IA⁄NEW Tribal Park [31] is on southeast Vancouver Island, in the District of Metchosin. Currently known as Mary Hill, this 176-ha parcel is part of SC'IA⁄NEW (Beecher Bay) First Nation's ancestral lands. There is ample evidence of pre-contact Coast Salish occupation throughout the area, with at least 33 archaeological sites recognized under the *Heritage Conservation Act*. The land contains old growth coastal Douglas-fir, arbutus, and Garry oak and associated ecosystems, providing habitat for at least 18 rare species, including 11 that are listed under Canada's *Species at Risk Act*, and four ecological communities that are critically imperiled.

In the early 1900's, Canada's Department of National Defence (DND) acquired the Mary Hill lands, interrupting SC'IA⁄NEW's use and occupation. Under DND's management, Mary Hill has been closed to public access and sheltered from non-military development, being used since the 1940s as a key military training site. In 2018, DND declared Mary Hill surplus to its needs.

Under the BC Treaty Process, SC'IA⁄NEW First Nation is negotiating with Canada to acquire Mary Hill as Treaty Settlement Lands. SC'IA⁄NEW initially considered conventional development opportunities, such as housing and logging, but a business case for a Tribal Park featuring conservation-compatible ventures showed that potential for economic benefit to the community was equal to that of conventional development. SC'IA⁄NEW First Nation agreed to consider forgoing conventional development to create a Tribal Park, provided the community's overarching social and economic interests and priorities can be sustained. Bringing people back home, through renewing guardianship, stewardship, and cultural practices in the area, as well as ensuring benefits to the community are central to SC'IA⁄NEW's vision for the Mary Hill lands.

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[30] Mamalilikulla First Nation website, "Indigenous Protected and Conserved Area", https://mamalilikulla.ca/indigenous-protected-and-conserved-areas-ipca, accessed 7 Oct 2024.
[31] SC'IA⁄NEW Tribal Park website, "An Indigenous Protected Area", http://scianewtribalpark.ca/, accessed 24 Oct 2024.

In 2022, SC'IA⁄NEW led and signed a Standstill Agreement with project supporters District of Metchosin, Habitat Acquisition Trust (HAT), and Pearson College (an adjacent land owner), in collaboration with the Te'mexw Treaty Association, to allow time to explore different ways to protect the Mary Hill lands in perpetuity. A land use analysis and ecological survey were completed, along with several engagement processes. In October 2024, after more than 18 months of engagement, the SC'IA⁄NEW community voted 81% in favour of a Tribal Park, the term preferred by the community rather than IPCA.

While treaty negotiations are still underway, the lands remain under DND jurisdiction. The Tribal Park work now involves developing financing and implementation processes. Using lessons learned from other First Nations (Thaidene Nëné IPCA by Łutsël K'e Dene First Nation, Great Bear Rainforest by COAST, Tla-o-qui-aht Tribal Park at Mears Island via IISAAK OLAM), SC'IA⁄NEW worked with HAT to develop a four-phase process:

1. Transition phase: establish a Steering Committee comprising Chief and Council, HAT, legal representation, and others.
2. Design phase: researching, designing and developing supporting frameworks to meet community vision and goals for a tribal park.
3. Implementation phase: establish economic ventures, a Guardian program, etc.
4. Monitoring phase to inform adaptive management.

An endowment fund is being set up to offset development costs associated with the Tribal Park and probable economic benefits had the site been developed conventionally. A second fund will support economic ventures and the business development. A third fund will be established for operations and maintenance costs, such as the Guardian program.

SC'IA⁄NEW have explored carbon credits 2.6for funding potential. A formal assessment found the forested lands of SC'IA⁄NEW Tribal Park would meet the criteria for carbon crediting under an aggregate model; however, discussions with potential carbon credit partners have been put on hold until further consultation with community and project supporters.

SC'IA/NEW Tribal Park key recommendation: ensure neighbouring municipalities and communities are brought along early in the process, and make sure to retain relationships as participants may change, for example following local government elections.

2.3 Land Use / Land Relationship Plans

Land-use planning is a process by which communities or governments develop a framework to guide decision-making about lands, waters, resources, wildlife and people who live in an area. This process can include an articulation of Indigenous laws and protocols for managing the land. It can also explore the linkages between language, place names and stewardship of the land. [32]

Land Use Plans (or Land Relationship Plans) identify what is found on a First Nation's lands or waters, what the First Nation's aspirations and desired uses are for those lands or waters, and how they will be managed. Such plans can help First Nations determine for themselves the future of their lands while

[32] Plotkin, R. 2018.

providing certainty for industry and nearby landowners. They do not need to be developed in partnership with provincial or federal government.

Through community meetings, conversations with Elders, youth and other land users, and extensive data collection and analysis, communities identify which lands they want to protect, and which lands could be zoned for development and resource use. [33]

Often, a land use plan can be preparation for or part of a Land Code or IPCA process, or some other agreement process that includes provincial or federal government or other partner. In those cases, a collaborative table model might be considered2.4. For example, in the case of a partnership IPCA approach 2.2.1, the Nation and the provincial government may choose to enter into a land use planning process together, where there is a shared interest in enacting the IPCA under both sets of laws and where such a partnership can meet both governments' needs.

While there is no one template for a land use plan, they are typically based on data collected on the ground and in the community, such as presence of species of cultural value, wetland and watercourse presence and condition, wildlife presence, forest cover type, and include maps showing these attributes. identify land use conflicts and set priorities where government-to-government land use planning can occur.[34] For a comprehensive resource on Land Use Planning by First Nations in BC, see Kehm G, Bridge G, and Robertson K, 2019. [35]

Case study: Tla'amin Forest Resource Plan

Tla'amin leadership identified a need to plan for their ʔəms giǰɛ (traditional territory) as a whole, including holistic management for biodiversity, water, cultural sites, and cultural practices. This covered an area of over 200,000 hectares of forest land. Development of the Tla'amin Forest Resource Plan ("the plan") coincided with several planning initiatives that required detailed analyses and engagement within the community, including the provincial Old Growth Strategic Review and deferral measures in place at the Nation. To develop the plan, staff spoke with hunters, plant medicine experts, Elders and other Tla'amin harvesters to ensure protection of resources key to the sustainment of Tla'amin culture and teachings. The Nation also collaborated with the province and industry partners.

To identify resources for protection, Tla'amin used LiDAR, TEM, and mapping layers for subject matter experts. This was woven with best available knowledge stemming from the Ta'ow (teachings), engagement with knowledge holders, and analysis of the current condition of the landscape. This qualitative and quantitative information was presented to leadership for discussion and final decisions.

Tla'amin Nations representatives shared the following lessons learnt from the process:

- Establish clear direction and expectations in a project charter.

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[33] Indigenous Leadership Initiative website, "Indigenous Land Relationship Planning", https://www.ilinationhood.ca/indigenous-land-use-planning, accessed 14 Nov 2024.
[34] Government of British Columbia website, "*Declaration on the Rights of Indigenous Peoples Act*", https://www2.gov.bc.ca/gov/content/governments/indigenous-people/new-relationship/united-nations-declaration-on-the-rights-of-indigenous-peoples#declaration_act, accessed 25 Nov 2024.
[35] Kehm G, Bridge G, and Robertson K, 2019, "An Updated Effective Practices Guide Land Use Planning by First Nations in British Columbia", https://newrelationshiptrust.ca/wp-content/uploads/2019/11/Web-version-FINAL-Kehm_Bridge_Robertson-Updated-NRT-Effective-Practices-Guide-for-Land-Use-Planning-by-First-Nations-in-BC.pdf, accessed 7 April 2026.

- Know how data will be accessed and shared; getting appropriate permissions and agreements in place is crucial to the planning efforts.
- Partner with relevant stakeholders in the plan area and establish a collaborative structure to address values which helps in the successful implementation of the plan.

The Nation identified the following benefits of the plan:

- Having a living planning framework that establishes how values will be managed.
- Creating an ongoing framework for data collection, sharing, and adaptive management.
- Having clear direction from the Tla'amin community.

The Tla'amin Nation is a modern treaty nation. They rely on policies and laws stemming from the treaty, related agreements, internal policy, and existing provincial legislation for the implementation of the policy within the Forest Resource Plan.

2.4 Collaborative Tables

2.4.1 Description

A collaborative table is a way of describing the process where First Nations come together—often physically at a table—with representatives from other governments, organizations, and businesses that all have an interest in a place, with the goal of solving problems and resolving conflicts. Almost any of the approaches described in this toolkit could be considered a collaborative table, if the process involves more than one First Nation, group, or government.

There is no one way to establish or manage a collaborative table, and there are as many forms as there are issues of concern to First Nations about lands and waters. The process is typically open and transparent to the parties at the table and might be based on a set of principles for how the participants will work together, often set out in an agreement with terms of reference that everyone signs.

A formalized version of collaborative table, the Collaborative Stewardship Framework (CSF) is an initiative of the Province of BC that intends to enable the province and Indigenous groups to explore, through regional collaborative stewardship forums, shared responsibility for environmental stewardship and options for making resource management decisions in BC in ways that reflect both Indigenous and Western knowledge. In 2018, the province initiated five CSF pilot projects involving more than 30 First Nations.[36]

Three case studies, one of which is a CSF pilot project, are presented below. They help illustrate that, although challenging and time-consuming, the collaborative table approach may be one of the best tools for First Nations to navigate BC's complex land and water jurisdictional landscape.

2.4.2 Case Studies

xʔəlilwətaʔɬ/Indian River Watershed Integrated Stewardship Plan

The xʔəl̓ilwətaʔɬ/Indian River Watershed is located about 30 km northeast of Vancouver at the southernmost fjord on the west coast of North America. It is surrounded by the Seymour, Stawamus,

[36] Collaborative Stewardship Framework website, "Collaborative Stewardship Framework", https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/collaborative-stewardship-bc/collaborative-stewardship-framework, accessed 2 Nov 2024.

Mamquam, Pitt, and Coquitlam watersheds. The Tsleil-Waututh people have always belonged to, and have accepted responsibility for the care of the lands and waters within their traditional territory. More recent management by Crown governments has been fragmented and has diminished environmental and cultural values. Seizing the opportunity presented by the Province of BC through the Sea-to-Sky Land and Resource Management Plan process, Tsleil-Waututh proposed a watershed-level planning process for the xʔəl̓ilwətaʔɬ/Indian River Watershed. [37]

In December 2005, Tsleil-Waututh and the Province signed a Partnership Agreement for collaborative development of an Integrated Stewardship Plan. This process was led by Tsleil-Waututh, and was one of the first of its kind in the province. Tsleil-Waututh have been working for decades to reach this agreement and, since 2005 have reintroduced Roosevelt elk and helped salmon stocks rebound. These actions have had cascading effects: herring have returned to the inlet, and wolves and cougars returned to prey on the elk.[38]

The Integrated Stewardship Plan is based on a unique framework that blends Tsleil-Waututh knowledge with various Provincial watershed planning guides [39] to set future management direction with the following objectives:

- harmonize the interests of Tsleil-Waututh and the Province;
- identify strategic goals for the watershed;
- develop management objectives that are a showcase for sustainability;
- provide tangible resource management strategies for operational planning and day-to-day resource management decisions; and
- address cumulative effects of previous development actions in the watershed.

The joint planning process included:

- terms of reference, adopted in 2007, that defined the planning process and guiding principles;
- a steering committee with equal Tsleil-Waututh and provincial government representation, supported by a joint technical team;
- scenario impact analysis to understand and quantify potential impacts to natural resource operations, with an emphasis on the forest sector economy;
- consultation with the Tsleil-Waututh community and outreach to other First Nations, major stakeholders and the general public; and
- a shared vision for a new government-to-government relationship based on respect, recognition, and of Indigenous rights, title, and interests.

With the plan completed and endorsed by Tsleil-Waututh Council, its management objectives and strategies will form the framework for a government-to-government Land Use Planning Agreement and

[37] Tsleil-Waututh Nation, 2022, xʔəlilwətaʔɬ/Indian River Watershed Integrated Stewardship Plan", https://inlailawatash.egnyte.com/dl/h37T9B0Z0H, accessed 18 Oct 2024.

[38] Tsleil-Waututh Nation website, "Tsleil-Waututh Nation's xʔəlilwətaʔɬ/Indian River Watershed Integrated Stewardship Plan", https://twnation.ca/tsleil-waututh-nations-integrated-stewardship-plan/, accessed 18 Oct 2024.

[39] Province of BC website, Land Use Planning Policy & Guidance, https://www2.gov.bc.ca//gov/content/industry/crown-land-water/land-use-planning/policy-guidance,accessed 18 Oct 2024.

be legally established as required by Tsleil-Waututh and the Province. An additional product associated with the plan is a stand-alone Bioregional Atlas for the watershed. For details on the plan, its implementation, and a range of GIS-based maps, refer to the xʔəlilwətaʔɬ/Indian River Watershed Integrated Stewardship Plan.

Sto:lo Collaborative Stewardship Forum Agreement [40,41]

The Stó:lō Collaborative Stewardship Forum agreement emerged from one of the five Collaborative Stewardship Framework pilot projects initiated in 2018. The agreement is between the S'ólh Téméxw Stewardship Alliance (STSA), the associated Stó:lō First Nations, and the Province. The STSA is a political body that guides engagement and consultation processes within the S'ólh Téméxw – the shared asserted territory of the Stó:lō. The intention of the agreement is for the STSA and Province to work together to develop principles, plans, projects and mechanisms for more effective and collaborative government-to-government shared decision-making and stewardship of the environment within S'ólh Téméxw. [42] The STSA and the province, however, hold different views regarding sovereignty, jurisdiction, title, and ownership. Each have acknowledged the distinct perspectives arising from their respective knowledge systems, legal traditions, and governance systems. Forum participants are therefore being guided by the Stó:lō First Nations' perspective of "Lets'emó:t" (one mind) as it relates to seeking consensus and collaboration. More information on the Forum's structure and projects it is undertaking can be found at the Collaborative Stewardship Forum website, "Projects", https://thestsa.ca/stsa-operations/csf/projects/.[43]

There are more than 20 projects ongoing through the Stó:lō CSF that fall under several themes, such as Land Use Planning, Cultural Site Protection, Monitoring and Enforcement, and Economic Development/Revenue Sharing. Several of these projects are resulting in improved environmental stewardship and are carried out by teams that include members of the community and provincial government staff.

2.4.3 First Nation—Municipal Land Use Planning

In cases where reserve lands are situated adjacent to or surrounded by a municipality facing development or resource extraction pressures, working directly with the municipal government in a collaborative approach can be an effective way of navigating conflicting values and limited resources. This can help mitigate land management challenges that transcend municipal boundaries, such as transportation, business expansion, watershed management, and housing. For more information, see the First Nation–Municipal Land Use Planning Tool.[44]

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[40] Collaborative Stewardship Forum website, "Sharing responsibility for Environmental Stewardship", https://thestsa.ca/stsa-operations/csf/, accessed 11 Nov 2024.

[41] BC Government Natural Resource Stewardship website, "Collaborative Stewardship Framework", https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/collaborative-stewardship-bc/collaborative-stewardship-framework, accessed 25 Oct 2024.

[42] Collaborative Stewardship Forum website, "Sharing responsibility for Environmental Stewardship".

[43] Collaborative Stewardship Forum website, "Projects", https://thestsa.ca/stsa-operations/csf/projects/, accessed 25 Oct 2024.

[44] Federation of Canadian Municipalities website, First Nation-Municipal Land Use Planning Tool, https://fcm.ca/sites/default/files/documents/resources/tool/land-use-planning-tool-cedi.pdf.

2.5 First Nations Woodland Licence

First Nations wishing to manage and have traditional uses of forests in their traditional territory may want to consider a First Nations Woodland Licence (FNWL). Unique to First Nations, an FNWL is an area-based, long term forest tenure that recognizes First Nations' asserted land and resource interests, including the protection of traditional use practices and the harvest and management of non-timber forest products. This allows First Nations to have an increased role in forest stewardship, protect traditional uses, and to manage forest and land use in the area. It also improves First Nations' ability to secure investment and loans.

A First Nation may be eligible to sign an FNWL if it has first signed a forest tenure opportunity agreement; if there is a source of replaceable allowable annual cut, an available operating area, and if the licence is approved through a mandate signed by the minister responsible for forests. [45]

2.5.1 Huu-ay-aht First Nation Woodland Licence

Huu-ay-aht First Nation was the first Nation to sign an agreement with the Province to hold a First Nations Woodland Licence. The licence covered an area of 9,500 ha, with an allowable cut of 70,000 cubic metres a year. The Nation has since combined the management of this land with an area of HFN Community Forest Agreement and the Bamfield Huu-ay-aht Community Forest Licence. All of these lands are managed through a Forest Stewardship Plan. The Nation indicates that holding these licences and agreements will help them build a self-sustaining community, provide tenure security, and enable access to financing.

2.6 Carbon offsetting

2.6.1 Description

British Columbia has the ambitious objective of reducing its greenhouse gas emissions by 33% and 80% from the 2007 level by 2020 and 2050, respectively. Carbon offsetting is one tool that can help the province achieve this target.

A carbon offset is an independently verified credit for net greenhouse gas reductions achieved by one party that can be used to compensate (or offset) the emissions of another party. Carbon offsets are typically measured in tonnes of carbon dioxide-equivalents (or tCO2e), transacted through carbon registries, and bought and sold for voluntary or regulated emissions reductions. Carbon offset projects offer opportunities to earn carbon credits by carrying out activities that help offset atmospheric inputs that make climate change worse. These credits can then be sold in a carbon market as a source of revenue. [46] In BC, land-based carbon credit projects are primarily in forests.

The concept of carbon markets emerged from international climate change talks in the late 1990s. Carbon markets are trading systems in which carbon credits are sold and bought. The carbon market

[45] BC Government website, First Nations Woodland Licence, https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/timber-harvesting-rights/first-nations-woodland-licence, accessed 9 Jan 2025.

[46] BC Assembly of First Nations and Ecotrust Carbon Toolkit website, "First Nations Carbon Toolkit", https://www.carbontoolkit.org/about, accessed 8 Oct 2024.

connects the supply and demand of emissions reductions and removals, resulting in the sale and purchase of carbon credits.[47]

There are two broad types of carbon markets. *Compliance* markets are regulated by regional, national or international regimes of emission reductions. In compliance markets, offset credits are purchased by emitters that must comply with mandatory, legally-binding emissions reductions targets that are supported by legislation. *Voluntary* markets exist outside of government-mandated compliance programs. Voluntary markets enable entities such as businesses, governments, and nongovernmental organizations to voluntarily purchase carbon credits. Compliance markets are currently limited to specific regions, but voluntary carbon credits are not constrained by boundaries set by colonial governments, nation states or political unions. Project proponents are in the best situation when there are both voluntary and compliance markets in their jurisdiction, because this diversifies and can increase demand for credits.[48]

"A carbon market is a big system for putting a value on the emissions we produce and supporting projects to reduce them — things like tree-planting, building wind farms or, in the case of the Great Bear Rainforest, supporting stewardship instead of logging. It can work either voluntarily, by people or companies looking to do good, or by regulation, by having the government set a cap on emissions. Companies then pay others who are emitting less to keep their overall emissions below that cap." [49]

2.6.2 Key considerations

High-quality forest carbon projects that are led by First Nations can be a path towards community land management and sustainable revenue. Because land-based carbon offsets can generate revenue from the protection of the physical properties of the land, they can be a tool to enable the re-establishment of First Nations land stewardship and return social and ecological balance to communities while aligning with ecosystem-based management practices and First Nations' rights and responsibilities.[50]

Recognizing this, the BC Assembly of First Nations (BCAFN) received a mandate from First Nations leadership to support community-led climate initiatives across the province. The BCAFN responded by preparing a Discussion Paper [51] and Toolkit [52] to provide guidance for communities interested in understanding carbon project opportunities. These resources can help First Nations understand the regulatory framework and protocols that underpin forest carbon projects in BC.

Working with an organization to help build capacity may also be beneficial. World Wildlife Fund (WWF) Canada and its partners are developing a Community of Practice and a data platform as part of WWF-Canada's National Carbon Monitoring Program, which aims to connect communities with science and

[47] BC Assembly of First Nations and Ecotrust Carbon Toolkit website, "First Nations Carbon Toolkit".
[48] Connolly, M. 2022. First Nations Carbon: A BCAFN Discussion Paper, Prepared for BC Assembly of First Nations. https://www.bcafn.ca/sites/default/files/docs/reports-presentations/BCAFN-Carbon%20Offset%20Discussion%20Paper_Feb%202022_%20Web_0.pdf, accessed 8 April 2026.
[49] Thomson, J, 2020, Why $25 million of carbon credits from the Great Bear Rainforest are sitting on the shelf, article in The Narwhal, https://thenarwhal.ca/why-25-million-of-carbon-credits-from-the-great-bear-rainforest-are-sitting-on-the-shelf/, accessed 10 Oct 2024.
[50] BCAFN Discussion Paper.
[51] BCAFN Discussion Paper.
[52] First Nations Carbon Toolkit.

technical capacity to measure, map and monitor ecosystem carbon to evaluate and implement NCS that maximize benefits. This community of practice aims to launch in 2025 (monitor https://wwf.ca/carbonmap/) .

Because many First Nations in the project region are constrained by a land base that is often too small to support any kind of profitable carbon offset, some may wish to explore project *aggregation*, which can mean two things: either when a single project proponent bundles smaller parcels of land into a project of a larger size in order to increase the economic feasibility of a project; or, where multiple proponents group multiple projects together to share project costs and register a project as a group. The Great Bear Forest Carbon Project is an example of an aggregated forest carbon offset project 2.6.3.[53]

The rights of First Nations in BC are land-based Aboriginal rights, and First Nations communities have the right to the carbon stored and absorbed across their lands and the potential revenues related to such carbon.[54] However, all Crown land-based forest carbon offset projects in BC must comply with the *Greenhouse Gas Industrial Reporting and Control Act* (GGIRCA) and the Greenhouse Gas Emission Control Regulation (GGECR).

Also, if a carbon project is on Crown land, BC currently allocates the right to benefit from the sale of carbon credits through an Atmospheric Benefit Sharing Agreement (ABSA). The Minister of Forests and the Minister of Indigenous Relations and Reconciliation currently have the authority to approve ABSAs, which are typically re-negotiated every five years. The province can and does often require retaining a share of the benefits obtained through the sale of carbon credit as a condition of approval. This places limitations on the revenue available to First Nations, and there have been disagreements between First Nation carbon project proponents and BC on what represents a fair and equitable economic benefit sharing. [55] The fact that the province has not yet ratified a policy on ABSAs can hinder negotiation processes, but this shouldn't be seen as a deterrent. An ABSA can be a tool First Nations could use to influence activities that take place on Crown land in their territory.

Establishing a carbon offset project can be a long, daunting, and complex process that drains financial and human resources. Also, the carbon sector is still evolving, with multiple changes and market variability; for a variety of reasons, there is still a surplus of credits on the market, so new proposals might not find buyers.[56]

The following case studies showcase carbon offset projects where large parcels of Crown land are available. While this is not necessarily the case for First Nations on Vancouver Island or the Lower mainland, these case studies demonstrate that First Nations-led carbon offset projects can yield positive outcomes.

2.6.3 Case studies

1. Great Bear Initiative / Coastal First Nations Carbon Project

[53] BCAFN Discussion Paper.
[54] BCAFN Discussion Paper.
[55] St-Laurent, GP, Hagerman, S, and Hoberg, G. 2017. Barriers to the development of forest carbon offsetting: Insights from British Columbia, Canada. Journal of Environmental Management, 203, pp. 208-217
[56] Oxley, D. & Warren, D. 2022. Coastal First Nations – The Great Bear Rainforest Project presentation, https://www.bcafn.ca/sites/default/files/2022-04/PP%20Presention%20-%20Great%20Bear%20Carbon%20-%20BCAFN%20-%20April%2019%202022.pdf, accessed 10 Oct 2024.

The Great Bear Rainforest (GBR) Carbon Project is an aggregate project that bundles several parcels together, covering over 5 million ha of BC's central coast, covering three areas (Haida Gwaii, North Mid Coast, and South Central Coast). It spans the unceded and overlapping territories of the 14 First Nations who developed it, and who collectively make up the Coastal First Nations (Wuikinuxv, Heiltsuk, Kitasoo Xai'xais, Nuxalk, Gitga'at, Gitxaala, Metlakatla, Old Massett, Skidegate, and Council of the Haida Nation). The project land encompasses temperate rainforest and coastal ecosystems. [57]

The GBR Project arose in the wake of years of protests and legal conflicts between First Nations and the federal and provincial governments over rights to fish and forest harvesting. After high-profile anti-logging campaigns, landmark agreements in 2006 and 2009 set aside protected areas and set conservation targets that supported the development of a carbon offset project.

In 2009, Coastal First Nations launched the GBR Project with the provincial government, making it the first Indigenous-led carbon project in North America. It was validated under BC's Forest Carbon Offset Protocol (FCOP) and has offset more than 1 million tonnes of CO_2 annually since 2012. [58]

The sale of carbon credits is intended to help Coastal First Nations better manage industrial logging practices in the rainforest; protect important ecological and environmental values; and generate revenue for economic self-sufficiency. [59]

The GBR project is divided into three sub-projects: the Great Bear South Central Project, the Great Bear North and Central Mid-Coast project, and the Great Bear Rainforest Haida Gwaii project. The projects use Improved Forest Management actions to generate offsets by reducing logging. Collectively they conserve 50-80% of standing growth that would have been logged under the previous annual allowable harvest set by the provincial government.

The provincial government has been the main purchaser of the GBR carbon credits, as well as some sales to voluntary markets. In 2021, BC purchased offsets from the three sub-projects to a total amount of $5.4 million. Revenue generated from the sale of offsets has allowed more priority forest areas to be protected, has contributed to greater development of a Guardian Program and has helped cover some community building costs. The GBR Project generates over 8 million tonnes of carbon credits annually. [60]

The project, which was developed specifically to fund protection and stewardship, has faced challenges. By 2020, it was struggling to find carbon credit buyers, putting the entire stewardship and protection framework at risk.

[57] First Nations Carbon Toolkit website, "Forest Carbon Toolkit Module 4: Opportunities, Barriers & Case Studies, https://www.carbontoolkit.org/module-4#GBR, accessed 10 Oct 2024
[58] Oxley, D. & Warren, D. 2022.
[59] Coastal First Nations Great Bear Initiative website, "Carbon Credits", https://coastalfirstnations.ca/our-land/carbon-credits/ , accessed 10 Oct 2024.
[60] Ostrom Climate website, "The Great Bear Rainforest Carbon Project", https://ostromclimate.com/case-study/great-bear-forest-carbon-project/ accessed 10 Oct 2024.

"It's fair to say that the shingle was hung out and we were ready for business…But it's not like the world has come knocking on our door." — Paul Kariya, senior policy analyst with Coastal First Nations.[61]

The provincial government buys about 600,000 to 700,000 tonnes of carbon offsets each year to account for what it generates in emissions. But the Great Bear Rainforest produces much more than the province needs. As of 2020, it held 1.9 million tonnes of unsold credits.[62] The voluntary market, however, is increasingly creating demand.

2. Cheakamus Community Forest

The Cheakamus Community Forest (CCF) lies on the overlapping unceded territories of the Sḵwx̱wú7mesh Úxwumixw (Squamish Nation) and the Líl̓wat7úl (Líl̓wat Nation), surrounding the Resort Municipality of Whistler (RMOW). The CCF was created following an announcement from the Ministry of Forests that the timber harvest volume around Whistler would be available for a new tenure through the new Community Forest Program. The CCF is owned by the Squamish Nation, Lil'wat Nation, and the RMOW, as equal partners holding the common belief that the people of the region should manage forest harvesting according to their values. [63]

This Limited Partnership, supported by Brinkman Climate and Ecotrust Canada, proposed to jointly manage 33,000 ha of forest around Whistler under the Cheakamus Community Forest Society, an independent non-profit. An agreement between the parties became official in 2009 with the signing of a 25-year tenure with then provincial Minister of Forests and Range.

The CCF was one of the first forest operations in BC to employ ecosystem-based management (EBM), a holistic approach that reflects the land use plans of all three partners and considers all aspects, including the human factor, of an ecosystem and determines the best way to ensure its ongoing viability.[64]

Through updated analyses of the land base, the CCF Society successfully negotiated with the Ministry of Forests to reduce the amount of timber harvested from 40,000 m^3 to 21,000 m^3 with about 15,000 ha being protected from commercial harvest through a variety of legal and voluntary mechanisms. This means animals and ecosystems can flourish and recreational opportunities can expand, while new forestry practices can be explored and refined. Forest-related actions are guided by the CCF's EBM plan, and delivered through reduced harvest volumes, extended harvest rotations, expanded reserves, and protection of old-growth forests and other important wildlife habitats.[65]

The EBM techniques used in the CCF mean that carbon is being stored on the land in the form of living and dead biomass that would otherwise have been released to the atmosphere under conventional forest management practices. Some of these management techniques include:

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[61] Badelt, B, 2024, article on CBC What On Earth website, "Carbon offsets are helping protect B.C.'s Great Bear Rainforest. But is that sustainable?, https://www.cbc.ca/radio/whatonearth/great-bear-rainforest-carbon-offsets-1.7072839, accessed 11 Oct 2024.
[62] Thompson, J, 2020.
[63] First Nations Carbon Toolkit website, "Forest Carbon Toolkit Module 4: Opportunities, Barriers & Case Studies".
[64] Cheakamus Community Forest website, "About Cheakamus Community Forest," https://cheakamuscommunityforest.com/about/, accessed 5 Dec 2024.
[65] Cheakamus Community Forest website, "What and Why", https://cheakamuscommunityforest.com/what-why/, accessed 5 Dec 2024.

- Setting areas aside for cultural and ecological values, including rare ecosystems, broader riparian reserves, and area of high traditional or spiritual use or value;
- Using small patch cuts, selective harvest, extended harvest rotation, and other harvest techniques that are designed to mimic natural disturbance;
- Undertaking stand thinning in second growth stands to accelerate return to old forest conditions; and
- Reducing fire risk for the forest and the community. [66]

The resulting carbon sequestration offered an opportunity: with assistance from Brinkman Climate and Ecotrust Canada, the CCF successfully negotiated an agreement with the Province to sell carbon offsets generated by its improved forest management approach.

The CCF uses a forest carbon accounting method developed by the BC government, and a carbon model developed by the Government of Canada. All of its greenhouse gas reductions are audited by independent third party auditors and held on the provincial government's carbon registry. The project reduces greenhouse gas emissions by approximately 10,000 tonnes of CO_2 per year. During the first verification period from 2009 to 2013, the project generated 65,546 carbon credits.[67] The project has sold approximately 150,000 credits to many BC businesses including VanCity, Tinhorn Creek, Sharp Six Consulting, Ecotrust Canada, Brinkman Climate, Eclipse Awards, Local Practice Architecture, MET Fine Printers, Epic Investment Services, and the RMOW. These offset purchases contribute to each organization's climate goals of going carbon neutral. [68]

As is typical for carbon credit projects, the up-front costs of setting up the CCF project were high. Supportive partnerships assisted the CCF with the initial funding, and such partnerships are important to set up early when developing a carbon project. Once achieved, the benefits can be numerous. For the CCF, implementing the EBM plan means there are additional planning costs and less revenue from the timber harvest volume compared to conventional forest management, but revenue from carbon offset sales has helped keep it financially viable. This is important as it allows the CCF to more fully deliver on the strategic plan and EBM plan goals of the partners. For example, the carbon offset income is supporting the CCF's climate resiliency planning, enhanced community engagement, and other projects that exceed the basics of typical forestry management. It provides the CCF with funding to go beyond "business as usual" and more opportunities for the Lil'wat Nation and Squamish Nation to express their land management and cultural goals within their territories.

Community Forest Agreements and Indigenous-led carbon projects such as the CCF can bring exclusive use rights and can be productive tools in redistributing decision-making power away from Crown and private corporations and into local communities. Historically, Lil'wat Nation did not see any of the benefits from harvesting that occurred in their own territory, and so took direct action to prevent big forestry companies from gaining access. Now they hold the majority of tenure to their lands, with annual CCF harvesting projects divided equally between Lil'wat Forestry Ventures LP and Sqomish Forestry LP. [69]

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[66] Cheakamus Community Forest GHG Offsets carbon brief, https://cheakamuscommunityforest.com/wp-content/uploads/2024/02/CCF-Carbon-Brief.pdf, accessed 9 Dec 2024.

[67] Ecostrust Canada, 2020, "Cheakamus Community Forest Carbon Offsets" briefing note, https://ecotrust.ca/wp-content/uploads/2020/03/Briefing_CheakamusCarbon.pdf, accessed 10 Oct 2024.

[68] Cheakamus Community Forest website, "Carbon Project," https://cheakamuscommunityforest.com/carbon-project/, accessed 9 Dec 2024.

[69] First Nations Carbon Toolkit website, "Forest Carbon Toolkit Module 4."

The CCF is the first carbon project to be established in a BC forest tenure, and also the first project in any community forest tenure in Canada. The carbon credits generated by the CCF carbon credit project are quantified using the BC Forest Carbon Offset Protocol, and verified to the BC Emissions Offset Regulation. [70] It is important to note that, because of its small size, the CCF carbon project is at the lower edge of viability—25,000 ha is considered the bottom end for reasonable returns (R. Seaton, pers comm). This might improve as the federal compliance market price of carbon emissions is predicted to continually increase from $65 per tonne of CO2e in 2023 to $170 by 2030, which may support higher price negotiation with the provincial government and bring enhanced economic security. [71]

2.7 Biodiversity Credits

Similar in concept to carbon credits, biodiversity credits aim to assign an economic value to efforts to preserve or restore ecosystems. They are a type of economic instrument that allows groups to finance activities, such as forest conservation or restoration that deliver net positive biodiversity gains. Investing in biodiversity credits is seen as a way for companies to improve the reputation of their brands and products.[72] Biodiversity credit systems have been developed in Australia and the US. In 2023, the UK and France announced a joint plan to launch a new biodiversity credits initiative. [73]

Non-profit organizations, governments (including Indigenous governments), landowners or companies that have a primary goal to conserve or restore land may generate a supply of credits or "certificates." One credit might be equal to a certain amount of land conserved or restored over a specific period of time. Private companies can then purchase these credits to meet their own biodiversity- or nature-based commitments (either voluntary or mandated through regulation), similar to how companies purchase carbon credits to help achieve their emissions-reduction goals. [74]

There is an important distinction with biodiversity credit markets: biodiversity credits are intended to have a net-positive impact on nature and biodiversity; whereas biodiversity offsets, a different market-based tool, are intended to compensate for companies' negative and unavoidable impacts on nature.[75] There is no biodiversity credit policy in Canada yet. In BC, a policy on environmental mitigation that speaks to biodiversity offsetting has been in development for some time but it does not address biodiversity credits.

A biodiversity credit system has been developed in the US. The steps for the seller are as follows: [76]

1. Companies that develop biodiversity credits identify a threatened habitat and partner with the landowners (or a First Nation could partner with such a company).

[70] First Nations Carbon Toolkit website, "Forest Carbon Toolkit Module 4."
[71] First Nations Carbon Toolkit website, "Forest Carbon Toolkit Module 4."
[72] Rao R., Choi, E., and Czebiniak, R.P. 2024. "Can 'Biodiversity Credits' Boost Conservation?" Article in World Resources Institute website. https://www.wri.org/insights/biodiversity-credits-explained#:~:text=Biodiversity%20credits%20are%20an%20economic,deliver%20net%20positive%20biodiversity%20gains. Accessed 12 Dec 2024.
[73] Stewart, S. 2024. "Biodiversity credits and Conservation", article in The Conservation Foundation website. https://theconservationfoundation.org/biodiversity-credits/. Accessed 12 Dec 2024.
[74] The Conservation Foundation website.
[75] Rao R., Choi, E., and Czebiniak, R.P. 2024.
[76] The Conservation Foundation website.

2. A biological survey is conducted to establish the habitat's baseline condition. This survey uses factors like water quality, ecological integrity, and species richness.
3. The land is assessed by an accredited assessor (there is no equivalent yet in Canada).
4. The landholder applies for a Biodiversity Stewardship Agreement (BSA). A BSA typically refers to a formal arrangement or contract between landowners and relevant authorities to promote and support biodiversity conservation on private land.
5. The credits can be sold.
6. The landholder receives annual payments and implements a management plan.

Another challenge for biodiversity credit systems is how to calculate a standard value for a "unit" of biodiversity. While carbon can be traded tonne for tonne across multiple jurisdictions, the same is not true for biodiversity. There are inherent difficulties in measuring and valuing biodiversity, and trade between jurisdictions lacks ecological meaning. [77, 78]

Although the biodiversity credit market in Canada is still in development, First Nations might consider exploring this as an option for generating revenue on lands they own or manage.

2.8 Land Trusts

Indigenous and non-indigenous land trusts are not for profit or charitable organisations that buy land to conserve ecosystems and enhance biodiversity. Increasingly, First Nations in areas dominated by privately owned land are viewing land trusts as a means of overcoming legal barriers and taking land back. This provides a way for them to engage in land-based practices, reclaim their territory, and build connectivity through the community and with relatives.

The first step is to form a not for profit or charitable organisation that assumes governance for the Land Trust. Nations could choose to follow the Canadian Land Trust Standards and Practices.[79] Land Trusts and Indigenous Peoples [80] also provides information on land trusts in the Canadian context.

Case study: W̱SÁNEĆ Lands Trust

The W̱SÁNEĆ Lands Trust Society (WLTS) was established in 2024 with the purpose of providing a place for land to be returned to the W̱SÁNEĆ people which were taken during colonisation. In an area dominated by private land, with little opportunity for land back through the reconciliation process with the Crown, the W̱SÁNEĆ wanted to provide an opportunity to attract private land return opportunities. On receipt of lands the aim is to restore land harmed by colonisation to ecological balance.

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[77] Land Stewardship Initiative Research. 2007. Article: Biodiversity Offsets, in "Yardwork" newsletter. Canada West Foundation publisher. https://cwf.ca/wp-content/uploads/2015/11/CWF_YardWorkLandStewardshipInitiative_BiodiversityOffsets_Report_DEC2007.pdf, accessed 7 April 2026.

[78] Poulton, D.W. 2014. Biodiversity Offsets: A primer for Canada. Prepared for Sustainable Prosperity and the Institute for the Environment, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2797391, accessed 7 April 2026.

[79] Barnett, I et al, 2019, Canadian Land Trust Standards and Practices, report prepared for the Canadian Land Trust Alliance, https://olta.ca/wp-content/uploads/2024/04/cltsp_2019_en_final-1.pdf, accessed Dec 2024.

[80] Gansworth, K.L. 2024. Land Trusts and Indigenous Peoples: the Canadian Context. Prepared for the Conservation through Reconciliation Partnership. 26 pp. https://ipcaknowledgebasket.ca/wp-content/uploads/2024/05/Land-Trusts-and-Indigenous-Peoples-FINAL-May-2024.pdf, accessed 16 Dec 2024.

The W̱SÁNEĆ Lands Trust Society's stated objectives are to:

- hold lands in trust for the benefit of W̱SÁNEĆ (the emerging people);
- provide an amenity to W̱SÁNEĆ by establishing and maintaining spaces for the sustainable exercise and enjoyment of W̱SÁNEĆ rights and title and Douglas Treaty rights;
- protect and care for sites of ecological, historic, and cultural value within W̱SÁNEĆ traditional territories on behalf of all future generations;
- protect and care for the natural and cultural heritage of W̱SÁNEĆ, to further reconciliation, to honour the Douglas treaties, and to respect W̱SÁNEĆ rights and title.

To achieve the above objectives, the WLTS seeks and receives donations of money, land, and other property for the purposes of the Society.

2.9 Key Biodiversity Areas

2.9.1 Description

Key Biodiversity Areas (KBAs) are areas that support rare and threatened species and ecosystems, and key natural processes. They are defined by the IUCN as "a site that contributes significantly to the global persistence of biodiversity." [81] KBAs are important for the long-term health and well-being of animals, plants, waters, and the land but they do not confer any type of legal protection; instead they create an awareness of the importance of a place for biodiversity. KBAs occur across all types of landscapes and marine areas, and in many instances exist because of the stewardship and relationships Indigenous people have with these species and places.[82]

The Canadian Key Biodiversity Area (KBA) program (https://kbacanada.org/) identifies sites of importance for biodiversity across Canada, collaboratively looking at places on lands and waters across the territories of hundreds of First Nations, Inuit, and Métis communities and groups. In most cases, communities already know the values these sites represent. In many cases, these sites only persist because of the careful stewardship by Indigenous peoples. [83]

To qualify as a KBA, a candidate area must go through a quantitative evaluation process using specific criteria set out by KBA Canada and by the International Union for Conservation of Nature (IUCN) global standards for the identification of KBAs. [84],[85] There are 11 criteria grouped under five categories, which can apply to any and all species groups, as well as ecosystems. A site needs to meet the thresholds for at

[81] IUCN, 2016, A Global Standard for the Identification of Key Biodiversity Areas, https://kbacanada.org/wp-content/uploads/2022/03/Global-standard.pdf, accessed 4 Oct 2024.

[82] Centre for Indigenous Environmental Resources website, "Key Biodiversity Areas (KBA) Project", https://yourcier.org/key-biodiversity-areas-project/#:~:text=About%20KBAs%20and%20Indigenous%20Stewardship&text=KBAs%20occur%20across%20all%20types,with%20these%20species%20and%20places, accessed 14 Oct 2024.

[83] Wildlife Conservation Society Canada website, "Key Biodiversity Areas and Indigenous-led conservation", https://wcscanada.org/newsroom/stories/key-biodiversity-areas-and-indigenous-led-conservation/, accessed 14 Oct 2024.

[84] KBA Canada Coalition, 2021, A National Standard for the Identification of Key Biodiversity Areas in Canada v. 1.0, https://kbacanada.org/wp-content/uploads/2022/07/National-KBA-Standard.pdf, accessed 14 Oct 2024.

[85] IUCN, 2016.

least one criterion to qualify as a KBA.[86] For more in-depth information on the criteria, refer to the IUCN's A Global Standard for the Identification of Key Biodiversity Areas.

While the IUCN criteria were not co-developed with Indigenous Peoples, KBA designations can complement and support Indigenous-led conservation and stewardship based on Indigenous values and priorities. [87]

Any individual or organization can use the National KBA Standard and the Global KBA Standard to identify sites contributing significantly to the persistence of biodiversity in terrestrial, inland water, and marine environments in Canada. The Canadian KBA Coalition has ultimate authority to recognize national KBAs. KBA proposals must be submitted through the Canadian KBA Coalition.

2.9.2 Key considerations

Establishing a KBA on a Traditional territory (or anywhere else) does not confer any greater protection than may already exist within the KBA, it can bring heightened awareness of the ecological values of the area and help create a case for greater protection. It may not necessarily result in benefits to the communities involved, but can create opportunities for enhanced tourism or support from conservation organizations in carrying out conservation activities.

First Nations may wish to consider pursuing a KBA for an area in their Territory if there is concern for degradation due to development or other threats, while recognizing the KBA designation might not lead to the desired result. By working collaboratively on a KBA proposal with local communities and conservation organizations, such as Wildlife Conservation Society Canada, stronger relationships may be built that will help achieve conservation results. Such groups can also take on the heavy workload of applying for a KBA.

"Conservation can only happen when people value nature. KBAs point us to the most critical places for nature, but what we do is up to all of us. From land use planning to Indigenous-led conservation efforts to community-based caretaker programs, KBAs provide a compass for conservation to ensure we are protecting the most important places for future generations." – Justina Ray, President and Senior Scientist, Wildlife Conservation Society Canada [88]

The KBA proposal process itself has met with some criticism. In a report undertaken to evaluate compatibility between the KBA proposal process and Indigenous Peoples' and local communities' environmental priorities, it was found that no meaningful compatibility exists between the KBA proposal process, as it now exists and is being implemented globally and in Canada, and the priorities of Indigenous Peoples and local communities. The KBA evaluation process relies on federal and provincial criteria for identifying rare or threatened species; it does not take into account species of cultural concern. [89] Often

[86] Critical Ecosystem Partnership Fund website, 2021, "What Is a Key Biodiversity Area?", https://www.cepf.net/stories/what-key-biodiversity-area, accessed 14 Oct 2024.
[87] Wildlife Conservation Society Canada website.
[88] Birds Canada website, 2022, "Official Launch of Key Biodiversity Areas in Canada", https://www.birdscanada.org/official-launch-of-key-biodiversity-areas-in-canada, accessed 21 May 2026.
[89] Wall, J, 2024, article in Resilience website, "The Key Biodiversity Areas Programme Must Do Better for Indigenous Peoples and Local Communities", accessed 14 Oct 2024, https://www.resilience.org/stories/2024-03-07/the-key-biodiversity-areas-programme-must-do-better-for-indigenous-peoples-and-local-communities/

there is no overlap between the two sets of species. This approach is at odds with the more holistic Indigenous way of seeing the world.

Case study: Yat'aayi Héen / Warm Bay Hotsprings KBA

Yat'aayi Héen / Warm Bay Hotsprings KBA lies on the core traditional lands of the Taku River Tlingit First Nation. It is a geothermal spring complex located in northwest BC, south of the town of Atlin. Consisting of two separate springs that are disconnected above ground, these springs have been recognized as a healing site for Taku River Tlingit, who also used the area for fish and caribou smoke houses. The unusual configuration of these springs supports the entire population of the Critically Imperiled Lake Chub (*Couesius plumbeus* pop. 3)—a unique taxon that is endemic to the site. The springs are surrounded by boreal forest and have created tufa deposits which are uncommon (deGroot and Pojar 2009). Although the springs are on private property owned by Taku River Tlingit First Nation, the springs on the east side of Warm Spring Road are commonly thought to be public land and are regularly used by the public. The proposal to establish the site as a KBA was led by Wildlife Conservation Society Canada with Taku River Tlingit First Nation.[90] Establishing Yat'aayi Héen KBA is helping to raise awareness of the ecological value of this area, and the endemic fish species in particular.

2.10 Biosphere Regions

2.10.1 Description

Biosphere reserves (or "regions" in Canada) are areas recognized by the UNESCO Man and the Biosphere Programme for their unique biodiversity, iconic landscapes, and engaged communities. They are part of a world network of over 700 sites in more than 120 countries, covering an overall area larger than China, and are home to around 170 million people.

Situated in areas with high conservation value and potential, biosphere reserves are considered regions that model sustainable economic and social development, while also helping to promote the conservation of biological and cultural diversity. In each biosphere reserve, community partners work together to find innovative ways to achieve a balance between the needs of humans and nature. [91],[92]

In Canada, biosphere regions are areas where communities are actively working to conserve biodiversity and implement the UN Sustainable Development Goals supported by Canada. Integrating Indigenous knowledge and involvement of Indigenous governments is an embedded commitment in biosphere region principles. The nineteen biosphere regions in Canada reflect its geographic diversity and some of its most iconic landscapes. [93] Two of BC's three biosphere regions are in the project region: Átl'ka7tsem / Howe Sound Biosphere Region and Mount Arrowsmith Biosphere Region. Also on Vancouver Island is the Clayoquot Sound UNESCO Biosphere Region2.10.3.

Biosphere regions involve local communities, including Indigenous governments wishing to be involved, and all interested stakeholders in planning, governance, and management, and are typically led by a

[90] Wildlife Conservation Society Canada website, accessed 14 Oct 2024.
[91] Government of Canada website, Biosphere reserves, https://www.canada.ca/en/environment-climate-change/news/2022/06/biosphere-reserves-in-canada.html ,accessed 8 April 2026.
[92] Mount Arrowsmith Biosphere Region website, "Mandate", https://www.mabr.ca/mandate, accessed 17 Oct 2024.
[93] Canadian Biosphere Regions Association website, "Frequently Asked Questions", https://biospherecanada.ca/frequently-asked-questions/, accessed 17 Oct 2024.

society or group. These community partners work together to find ways to achieve a balance between the needs of humans and nature. They typically aim to achieve four functions:

- conservation of biodiversity and cultural diversity;
- economic development that is socio-culturally and environmentally sustainable; and
- logistic support, underpinning development through research, monitoring, education, and training.

In Canada, reconciliation is an additional function. [94]

2.10.2 Key considerations

As is the case for KBAs, a biosphere region designation in and of itself does not confer protection, but it must contain a "legally constituted core area or areas devoted to long-term protection of biodiversity, monitoring, and research according to the conservation objectives of the biosphere region." [95] In BC, an example would be a provincial park inside of a biosphere region.

Biosphere regions can have influence: they facilitate research and land-based learning, and the information gathered about them can be used to support decision-makers when making policy changes and development decisions. They also help advocate for ecologically sustainable forms of development. Parks and biosphere reserves share similar objectives around the conservation of ecosystems and native biodiversity, but biosphere reserves rely on community-based efforts to manage and, where necessary, restore land and other resources to promote stable and sustainable economic activities.[96]

The use of the word "reserve" does not mean that biosphere reserves are set aside from human use and development. In fact, human activity and the health of people and communities are an integral part of the biosphere reserve program. The UNESCO label does not bring any new authorities over land, water, or resources and therefore the existing powers, rights and responsibilities of governments, businesses and landowners remain unchanged. However, integrating Indigenous knowledge and Indigenous governments into biosphere reserve establishment is a fundamental principle. [97]

A Biosphere Region designation may help First Nations achieve greater recognition and support for their stewardship in these areas of significance, and often generates endowment funds that they could access to support community initiatives, such as Guardian programs 2.10.3.

"Biosphere regions in Canada are committed to working with Indigenous communities and place great importance [on] local actions aimed at reconciliation between Indigenous and non-Indigenous peoples. Each biosphere region is at a different point in their reconciliation journey, but each [is] committed to … building relationships, supporting Indigenous priorities, and translating that commitment into actions and stories." [98]

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[94] Mount Arrowsmith Biosphere Region website, "Mandate."

[95] Clayoquot Biosphere Trust website, https://clayoquotbiosphere.org/our-biosphere-region/overview, accessed 9 Dec 2024.

[96] Canadian Biosphere Regions Association website, "Frequently Asked Questions".

[97] Kingsmill, P. G., 2018, "A Guide to Being a Biosphere Reserve in Canada", the Canadian Biosphere Reserves Association, 28 pp, available at https://biospherecanada.ca/wp-content/uploads/2024/03/BRBookENG.pdf

[98] Canadian Biosphere Regions Association website, "Reconciliation Projects",https://biospherecanada.ca/project-category/reconciliation/, accessed 17 Oct 2024.

To initiate designation of a biosphere region, groups submit a proposal to the Canadian Commission for UNESCO (CCUNESCO), which is responsible for overseeing all UNESCO programs in Canada, and which determines whether an area meets the requirements. It is also essential to have a local proponent group, such as a First Nation, to champion the idea and be involved in the biosphere region's implementation. The proponent should first ensure that the organizational potential is there to develop the capacity to carry out the functions of a biosphere reserve.[99]

CCUNESCO does not fund biosphere reserves. Funding may occasionally be provided to the network of Canadian biosphere reserves to support initiatives that match CCUNESCO's strategic priorities, and the federal and provincial governments may contribute financially to biosphere reserve activities, but such funding is project-based and contingent upon senior government priorities and contract delivery expectations 2.10.3. Clayoquot Biosphere Region case study). To sustain themselves financially, biosphere regions usually develop partnerships with local and provincial governments, NGOs, charitable organizations and private-sector donors. To learn more about the biosphere region process, groups should read a Guide to Becoming a Biosphere Reserve in Canada published by the Canadian Biosphere Regions Association.[100]

2.10.3 Case studies

1. Átl'ka7tsem / Howe Sound Biosphere Region

In 2021, after several years of collaborative effort at the local level, and the signing of letters of support from all levels of governments and Squamish First Nation, UNESCO designated 218,723 hectares of land and sea as the Átl'ka7tsem / Howe Sound Biosphere Region (AHSBR), the third biosphere region in BC.

The AHSBR is in the unceded territory of the Sḵwx̱wú7mesh Úxwumixw (Squamish Nation) people. Tseli-Waututh, Musqueam, Sto:lo, Shishalht, St'at'imc-Lillooet Tribal Council, In-shuck-ch, Katzie, Lil'wat and First Nations within the Hul'qumi'num Treaty Group also have claims in the region. It encompasses the Atl'ka7tsem/Howe Sound watershed close to Vancouver, extending from the Howe Sound sea floor to the surrounding mountain tops. The AHSBR is 16% marine and 84% terrestrial. Approximately 42% of the terrestrial area is under some form of management for conservation values. [101] It is the first biosphere reserve in Canada to designate areas within the marine environment as part of its core protection zone.

This UNESCO Biosphere Region is governed by the Howe Sound Biosphere Region Initiative Society, which is responsible for the long-term sustainability of the UNESCO designation.[102] A Council member from Squamish Nation co-chairs the society's Board.

AHSBR was required to develop a comprehensive and unified plan to guide how they move forward. The Nchu'ú7mut/Unity Plan is a land and marine use plan that was created through a community forum of multi-sectoral stakeholders, rights holders, and local community members through a collaborative, participatory approach. The Plan outlines the collective long-term vision for AHSBR and a roadmap for how to get there. It is also guided by members of the Howe Sound Round Table, a multi-sectoral group

[99] Canadian Biosphere Regions Association website, "Frequently Asked Questions".
[100] Kingsmill, P.G. 2018
[101] Átl'ka7tsem / Howe Sound Biosphere Region website, https://www.howesoundbri.org/, accessed 17 Oct 2024.
[102] Howe Sound Biosphere Region Initiative Society website, "Creating a management plan for the Biosphere Region", https://www.howesoundbri.org/latest-news/2022/1/20/the-next-step-creating-a-management-plan-for-the-biosphere-region, accessed 17 Oct 2024.

of people from around the region. Members meet twice a year to provide advice and guidance on planning. There is representation from Squamish Nation, industry, independent specialists, and all levels of government.[103]

While it is too early to identify measurable environmental benefits of the AHSBR on the ground, there are already several positive outcomes that have resulted from its designation:

- Through federal funding, the AHSBR Initiative Society has created an on-line biosphere terrestrial atlas and mapping application that provides open access to data related to biodiversity conservation and land use in the entire region. Data compiled in the atlas support evidence-based decision making, and help to identify knowledge gaps and areas where conservation, restoration, and connectivity efforts could be focused. This is a useful tool for local governments and First Nations.
- While there is strong support among local governments for the AHSBR and for regional sustainability, the main barrier to progress has been lack of capacity and resources. The AHSBR is working to overcome that barrier by leveraging existing relationships and trust built over many years with local government staff to communicate land use and policy changes that staff could bring forward into policy and strategies. This is especially timely as local governments are currently reviewing their Official Community Plans.
- The AHSBR has served to coalesce and give a common purpose to community commitments to sustainability and biodiversity.

2. Mount Arrowsmith Biosphere Region

The Mount Arrowsmith Biosphere Foundation [104] was established in 1996 by research scientist Dr. Glen Jamieson to raise awareness of the biodiversity of watersheds on Vancouver Island's Mount Arrowsmith and adjacent marine areas. Dr. Jamieson spearheaded the nomination process that would earn the region its UNESCO biosphere reserve designation.

Situated within the traditional territories of seven First Nations communities, MABR shares similar boundaries with the Regional District of Nanaimo. The MABR is approximately 1,200 km^2, with a vertical elevation spanning just over 2100 metres from the highest peak on Mt. Arrowsmith to 300 metres into the Salish Sea. Its geographical boundary is defined by five watersheds: Englishman River, Little Qualicum, French Creek, Nanoose Creek, and Bonnell Creek (Figure 3).

The MABR was officially designated in 2000. For the next 10 years, the Foundation built awareness of the MABR through activities and events, climate change research, and ecological monitoring. In 2010, the MABR underwent its first 10-year UNESCO review, a standard process for all biosphere reserves. Following that review, new goals were set, and a new management structure was discussed to increase the effectiveness of the organization, and to ensure greater collaboration in meeting the UNESCO biosphere reserve mandate.

In 2014, members voted to dissolve the original Foundation and hand over MABR management to Vancouver Island University (VIU) and the City of Parksville. In July 2014, VIU and Parksville signed a

[103] Átl'ka7tsem / Howe Sound Biosphere Region website, "Managing the Biosphere Region", https://www.howesoundbri.org/management-plan#:~:text=The%20Nchu'%C3%BA7mut%2FUnity%20Plan,(SWOT)%20(2022),accessed 14 Jan 2025.
[104] Mount Arrowsmith Biosphere Region website, "History", https://www.mabr.ca/history, accessed 18 Oct 2024.

Memorandum of Understanding to co-manage the MABR and to build a roundtable involving First Nations, municipal and senior levels of government, private industry, conservation groups, and other regional representatives.

The MABR held its first roundtable gathering in 2015, involving representatives from Snaw-naw-as (Nanoose) First Nation, Qualicum First Nation, the City of Parksville, the Town of Qualicum Beach, the Regional District of Nanaimo, the BC Ministry of Environment, the Vancouver Island Conservation Land Management Program, Island Timberlands, TimberWest, and Vancouver Island University. MABR operations are overseen by the MABR Roundtable and the MABR Coordinator.

The roundtable model has prevailed since its inception, and membership has remained strong and diverse. Members meet quarterly in respectful dialogue to share information on regional, organizational, and community events; receive updates on MABR research and other initiatives; and find solutions to funding, land use, and operational challenges.

In 2014, VIU established the MABR Research Institute (MABRRI), the purpose of which is to connect the university with the priorities and concerns of the community and First Nations and to perform as the research arm of the MABR. MABRRI also raises funding, which has grown from about $20,000 in 2014 to well over $1 million in fiscal year 2023/2024. Because funding is the main operational challenge for MABR, the roundtable must still also pursue grant funding from government and other programs to ensure the MABR mandates can be met.

Ecologically, MABR has seen degradation of several ecological metrics, such as deforestation and an increase in debris in watersheds since 2014. However, positive landscapes changes include new park and protected area designations, local government and homeowner involvement in the Green Shores Local Government Working Group, and many restoration activities. [105]

The MABR provides a strong example of how First Nations, local government, private forestry companies, researchers, eNGOs and community members can work together to successfully manage a biosphere region.

[105] MABR. 2024. Self-Study Periodic Review 2014 – 2024. Report prepared for the Canadian Commission for UNESCO and the International Coordinating Council of the MAB Programme. Available https://static1.squarespace.com /static/56cfcb3b4c2f859ac50bcbef/t/6706e8e0e0ad9021bcdf443f/1728506090131/MABR+Periodic+Review+2024+-+No+Appendices+2.pdf, accessed August 2025.

Figure 3. Mount Arrowsmith Biosphere Region [106]

Clayoquot Sound UNESCO Biosphere Region

The Clayoquot Sound Biosphere Region (CBSR) emerged as a way to resolve land use conflicts of the 1980s and 1990s that erupted into the Clayoquot protests, also called the "War in the Woods". [107] A series of blockades aimed at ending clearcutting in Clayoquot Sound culminated in 1993, when 856 people were arrested during the largest act of civil disobedience in Canadian history. Confronted with declining natural resource stocks but a continued need to make a living from forestry and fishing activities, First Nations and local community members sought better ways of managing the rich biodiversity of the region. During the protests, a small but passionate group of people explored the UNESCO Biosphere model. [108]

In January 2000, after several years of discussion and work, Clayoquot Sound was designated as the Clayoquot Sound UNESCO Biosphere Region with the support of local First Nations, communities, and the federal and provincial governments. The CSBR designation acknowledges aboriginal title and rights and does not prejudice ongoing treaty negotiations. While the UNESCO designation does not in itself provide legislated protection, it provides a framework for bringing the region together through innovative education programs, community and ecosystem health research, and support for resident-led initiatives.

[106] Mount Arrowsmith Biosphere Region website, "Geography".
[107] Clayoquot Biosphere Trust website.
[108] Clayoquot Biosphere Trust website.

In 2000, to mark the Biosphere Region designation, the federal government entrusted a $12 million grant to Clayoquot Sound communities through the creation of the Canada Fund. The Clayoquot Biosphere Trust manages this endowment fund to uphold the spirit and intent of the biosphere region designation through innovative education programs, research into sustainability, and annual grant-making to organizations within the CSBR. [109] The local First Nation communities benefit through employment and capacity building opportunities and support for language programs.

The UNESCO program requires each biosphere region to have appropriate zonation that includes a legally constituted core area or areas devoted to long-term protection of biodiversity, monitoring, and research according to the conservation objectives of the biosphere region. Accordingly, in 2008, the land designations legally changed within the CSBR. New watershed plans were mapped and designated areas were set aside as reserves to protect a range of values such as hydroriparian resources, sensitive soils and unstable terrain, red- and blue-listed species, forest-interior conditions in late successional forests, cultural values, scenic and recreation values, and representative ecosystems. The CSBR land designations and zonation have evolved since then due to various land use planning and management changes. In 2024, Ahousaht and Tla-o-qui-aht First Nations leadership, along with the provincial government engaged in the conversion of approximately 77,000 hectares of Tree Farm License 54 into conservancies in Clayoquot Sound.[110]

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[110] Clayoquot Biosphere Trust website, "Biosphere zonation".

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Appendix A – Land Code First Nations in the project area

The following First Nations are in the project area and either have an operational Land Code or are developing one. Links to relevant webpages are provided.

Operational (with date agreement signed)

- Leq'a:mel – February 2010
- Scia'new First Nation (Beecher Bay) – August 2023
- Songhees – October 2011
- Sema:th – November 2011
- Tla'amin Nation (Sliammon First Nation) – September 2004– now a Treaty Nation
- T'souke – February 2007
- Tsawout – May 2007
- Tsleil-Waututh – June 2007
- Wei Wai Kum First Nation (Campbell River) – January 2013

Developing

- Cowichan Quw'utsun Tumuhw
- K'omocks
- Katzie
- Kwantlen
- Malahat
- Musqueam
- Shxw'ow'hamel
- Snaw Naw As (Nanoose)
- Stz'uminus

PART 3 – LOCAL GOVERNMENT POLICY TOOLKIT

1 Overview

As described in Part 1 of this report, the Action for Adaptation Biodiversity Atlas provides current spatial information on six different atlas map layers that can be used to inform biodiversity protection, climate resilience, and carbon storage. This Local Government Policy Toolkit is a companion to the atlas, and together they are intended to help planners and land-use managers:

a) consider and understand how to use information derived from the atlas map layers; and
b) wholistically integrate the environmental values of carbon sequestration, biodiversity, ecologically sensitive ecosystems, species at risk and of cultural significance, ecosystem connectivity, and hydrologically sensitive ecosystems into land stewardship, land use planning, and decision-making to yield nature-based solutions to climate resilience.

To support climate resilience and nature-based solutions, municipalities need to protect habitats, ecosystems, and connectivity, and carry out or support stewardship of natural assets using best practices. These actions can be implemented through policy and bylaw approaches such as zoning, environmental Development Permit Areas (EDPAs) and biodiversity strategies to establish greenways, protected areas, setbacks and buffers, and several other actions.

To support these actions, the Local Government Policy Toolkit provides:

e) A description of the environmental values mapped in the Biodiversity Atlas and their importance, and how these should inform local government policies and actions on biodiversity and climate resilience;

f) Descriptions of federal and provincial legislation that govern local government environmental and climate actions, and descriptions of best management practices that guide these actions (Appendix B – Summary of existing policies);

g) An inventory and assessment of local government regulatory and non-regulatory tools such as OCPs; EDPAs; climate, forest, and biodiversity strategies; and bylaws; and

h) An extensive suite of example policy provisions, performance targets, and indicators that are currently in use or are recommended for use by local governments. These are written in a way that local governments can adopt them into OCPs and other policies to advance biodiversity protection and climate resilience. These are provided in:

    Table 8. Official Community Plans (OCP) policy provisions, sources, targets, and indicators,
    Appendix C – Example actions/policies for local government biodiversity strategies,
    Appendix D – Example actions/policies for local government urban forest strategies, and
    Appendix E – Example actions/policies for local government climate strategies.

While it is intended that First Nations land stewards will also find this toolkit of value, the First Nations Toolkit (Part 2 of this report) describes several approaches to land and water stewardship that First Nations can use for their lands and territories in ways that harmonize with their own values.

2 Challenges: what we heard

As part of the research for this project, an analysis was carried out of local government policies (e.g., regional growth strategies, official community plans, bylaws) across the project area. The analysis revealed a number of common challenges that create barriers to advancing biodiversity protection and climate resilience. Table 3 summarizes these challenges. The analysis also revealed a number of related policy gaps that are summarized in section 4 4.4. Policy solutions to these gaps and challenges are offered in applicable regulatory sections 3.2 through 3.4 and in section 4—effective policy provisions.

Table 3. Common policy challenges faced by local governments in the project area

Challenge themes & description
1. Environmental values are managed separately At present, environmental regulations and policies treat ecological processes as separate systems. For example, water quality, water quantity, rainwater infiltration and flow, and air quality are all linked yet the policies governing them are separate. The *Local Government Act* and Community Charter enable bylaws in ways that reflect that separation. Local government policy and regulatory frameworks need to consider the environment and its processes as a whole. This current separation of environmental values is reflected in how Crown land, private land, and agricultural land are managed and considered in planning. Each has different and sometimes conflicting objectives. A whole systems approach is necessary to advance biodiversity protection and climate mitigation together. A collaborative table approach across jurisdictions and stakeholders could help bridge these separations and harmonize land use objectives and outcomes.
2. Policies are not well integrated within local government operations Many policies and bylaws lack explicit links that would integrate them across departments to ensure land use and operational decisions at the local government level are guided by the same objectives and actions. Nature-based solutions, and protection of natural assets are often lower-cost and sustainable ways to adapt to and mitigate the mounting impacts of climate change. They can also serve as amenities and improve quality of life for residents. Integrating these approaches across operations would strengthen commitments, improve efficiency, and help improve biodiversity protection and climate resilience outcomes.

3. Development pressures, the Housing Statutes, and land values

As housing demands surge, municipal and regional jurisdictions face increasing pressure to accommodate growth while still protecting the natural environment. The 2023 *Housing Statutes (Residential Development) Amendment Act* ("Bill 44") placed further pressure on many municipalities to densify, and brought misinterpretation or misunderstanding of whether the statutes supersede or conflict with overlapping provincial legislation at the provincial and local level (see section 3.3.4 for discussion and solutions).

Compounding this challenge is that development cost charges (DCC) in many municipalities have been set based on land values that are several years behind and have not kept pace with current prices. This means that while more new developments are approved, and DCCs collected, the buying power of DCC revenue is reduced and less adequate for purchasing park lands to protect. Local governments may update their DCC bylaws but the pace of land value inflation is outstripping the pace of bylaw revision.

4. Limited legal framework and weak provincial response

All local governments have official community plans (OCPs), and some have strategies on biodiversity and climate adaptation. However, these tools are largely aspirational if there are no bylaws that enable enforcement, or if bylaws are not enforced (often due to lack of resources). Similarly, regional growth strategies are a weaker tool with no regulatory authority.

Compounding this challenge is the lack of legal tools at the provincial and federal levels to back up enforcement. For example, there is no provincial law that protects ecosystems at risk on private or public land, or for protection of most species at risk on private land. Similarly, lack of resources at municipal and higher levels of government has resulted in almost non-existent compliance monitoring. Local government staff have reported provincial regulatory infractions as required, but there is little to no response by provincial staff. Regarding environmental compliance, local government officials have asked, "If the province doesn't care, why should we?"

The *Local Government Act* gives local governments the authority to enforce their own bylaws, but without a legal framework and response from higher levels of government, local staff and elected officials are often challenged to rescind or reject proposed bylaws that go beyond provincial guidelines or that appear to constrain activities on privately owned lands.

Local governments can counter this to some degree by establishing science-based policy objectives and supporting bylaws that are harmonized across department operations, as noted above.

5. Limited political will

Limited or lacking political will is a concern often raised by local government staff, and it is closely linked to challenge #4 above. As noted, the *Local Government Act* gives local governments the authority to enact the policy tools they need to build and apply biodiversity protection and climate resilience measures. However, these tools are often not used to their fullest extent because of lack of support from elected officials and at the provincial level. Local governments can advocate to the provincial government for improved regulatory frameworks, and staff can strengthen support from elected officials and the community by providing information about the

necessity of biodiversity conservation and climate resilience, and by using current mapping information to inform decisions.

6. Reactive decisions

Planners who are responsible for reviewing development permit applications tend to be, by necessity, reactive and reductive, particularly if they are responding to emergency events or to erupting land use controversies or time constrained decision expectations. This leaves them with limited opportunity to consider a proposal's potential consequences and cumulative effects on the environment. Having access to current maps with recent information can help planners make better-informed decisions and potentially counter proposals with science-based conditions.

7. Resource constraints and lack of environmental expertise

As local governments receive more development permit applications and face legal challenges due to tensions between landowner expectations and environmental protection, staff have far less time to find, understand, and apply environmental information to their decisions. They also often lack access to current and reliable mapped data to inform their decisions.

Similarly, many local governments do not have environmental planners or similar expertise on staff. Most planners do not have environmental training, so are unfamiliar with concepts such as nature-based solutions and don't normally consider them as they carry out their work, particularly at the development proposal / site level. Ecological terms are a "different language" than what we're used to dealing with.

While there may be interest in advancing the protection of environmental values, resources or budget might not be available to hire external experts. In the past, local government staff had access to provincial or federal specialists whom they could query for information—sometimes even meeting with them on-site for development permit advice. This changed when the province enacted the professional reliance model. This ended the relationships that enabled the open exchange of information. Staff must now depend on reports provided by independent qualified environmental professionals (QEPs) who are hired by developers. Unless local governments stipulate stringent report requirements, these reports tend to be at a coarse scale that might lack important information, like the potential presence of an endangered species or cumulative effects on adjacent habitat. Planners want and need reliable information from outside sources and miss the relationships they once had with senior government personnel.

3 Leveraging existing policy

3.1 Overview

There are several regulatory and non-regulatory tools local governments have authority to use to advance biodiversity protection and climate resilience in their jurisdictions. These tools range from federal and provincial legislation to OCPs, strategies, and bylaws. Local governments are not using the full extent of their powers for protecting and restoring the natural environment. [111]

The goal of this section is to create awareness about the legislative and policy tools currently available to local governments within their existing authorities, and provide ways these can be used (see Sections 3.2 through 3.4). Examples are provided to illustrate ways local governments or organizations working with local governments are currently using these tools. This section draws from a number of resources, particularly the Green Bylaws Toolkit, [112] provincial and federal resources, local government OCPs and policies, and conversations with local government planners.

Federal Habitat Stewardship Program

The Habitat Stewardship Program for Species at Risk (HSP) was established in 2000. It provides funding for projects submitted by Canadians that contribute directly to the recovery objectives and population goals of species at risk listed on SARA Schedule 1, and that prevent other species from becoming a conservation concern.

Environment and Climate Change Canada administers HSP funds that support terrestrial stewardship projects, while Fisheries and Oceans Canada is responsible for projects for aquatic SAR.

The HSP issues a call for applications annually. Local governments can partner with other organizations to submit proposals and access funds. For more information, go to Habitat

3.2 Federal legislation & programs

The federal government does not have direct jurisdiction over local governments; generally, its powers flow through the provincial government. However, there are some federal laws and programs that local governments can leverage for their own policies and decision-making, as described below.

3.2.1 *Species at Risk Act*

Species at risk are plants and animals (including amphibians, birds, fish, fungi, invertebrates, mammals, plants, plant communities, and reptiles) that are native to Canada and in danger of becoming extinct or extirpated from Canada. The purpose of the *Species at Risk Act* (SARA)[113] is to prevent these species from disappearing from Canada. SARA only

[111] Green Bylaws Toolkit 101, webinar 2021, Stewardship Centre for British Columbia, https://www.youtube.com/watch?v=nP2gEZZeTP0, accessed 9 Jan 2025.

[112] Curran et al. 2021. Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure. 396 pp. Available at https://stewardshipcentrebc.ca/green-bylaws/

[113] *Species at Risk Act,* S.C. 2002, c. 29, https://laws.justice.gc.ca/eng/acts/s-15.3/page-1.html, accessed 9 Jan 2025.

addresses species at risk, not ecological communities at risk. At present, there are 200 endangered or threatened species in BC listed under SARA Schedule 1. [114,115]

When a species is listed on SARA Schedule 1, general prohibitions apply in certain circumstances:

- no person shall kill, harm, harass, capture or take an individual;
- possess, collect, buy, sell or trade an individual, or any part or derivative; or
- damage or destroy the residence of one or more individuals.

These prohibitions do not apply to SARA-listed species of special concern.

Prohibitions within SARA apply only on federal lands, with two exceptions: migratory birds listed under the *Migratory Birds Convention Act* (see section 3.2.2) are protected anywhere in Canada (as are their residences), and aquatic species and their residences are protected anywhere they occur.[116]

Local governments do not have explicit legal responsibilities for the conservation of species at risk under SARA. Similarly, there are no approved federal or provincial policies yet regarding critical habitat for species listed under SARA. However, local governments must ensure they do not violate provincial and federal legislation, and should apply due diligence for actions and decisions that may facilitate violations by other parties [117] such as developers or permit applicants. This includes ensuring that Qualified Environmental Professionals have the appropriate expertise for the species they are surveying (for more on this, see section 3.4.9).

Although there are limited legal requirements for local governments to protect species at risk (with the exception of species protected under the *Fisheries Act* and the provincial *Wildlife Act;* see sections 3.2.3 and 3.3.2), protecting the habitat of species at risk brings economic, social, and cultural co-benefits through ecosystem services. Local governments can and do embed this in their biodiversity and climate adaptation strategies.

For a comprehensive discussion on considerations for local governments regarding SARA and species at risk, see the Green Bylaws Toolkit, section 29.4.

3.2.2 *Migratory Birds Convention Act*

The *Migratory Birds Convention Act* [118] (MBCA) provides legal protections for migratory birds, including their eggs and their nests anywhere they are found, regardless of land ownership. In addition:

- The MBCA applies to bird species listed in Article I of the Migratory Bird Convention, including waterfowl, cranes, rails, shorebirds, and songbirds. For a searchable list, see the Birds Protected in Canada website.
- The MBCA prohibits possession or sale of migratory birds or nests, and the deposit of substances harmful to migratory birds in waters or areas frequented by them, unless authorized to do so.

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[114] *Species at Risk Act* SCHEDULE 1, List of Wildlife Species at Risk, https://laws.justice.gc.ca/eng/acts/s-15.3/page-10.html, accessed 21 Jan 2025.
[115] BC Species & Ecosystems Explorer, https://a100.gov.bc.ca/pub/eswp/search.do?method=process&searchType=COMBINED&sara=Y, accessed 22 Jan 2025.
[116] *Species at Risk Act*, ss. 34 and 58.
[117] Curran et al, pg. 329.
[118] *Migratory Birds Convention Act,* 1994, SC 1994, c. 22. https://laws-lois.justice.gc.ca/eng/acts/m-7.01/

- The Migratory Birds Regulations regulate the hunting of migratory birds, and prohibit the disturbance, destruction or taking of a migratory bird nest, egg, nest shelter, eider duck shelter or duck box, except in accordance with a permit. [119]

Local governments need to comply with the protections in the MBCA and its regulations. Its protections can be used to inform local government bylaws and policy. Some municipalities have an explicit provision that a tree-cutting permit will not be issued for a tree that is host to birds protected under the MBCA. For an example, see the City of Abbotsford's Tree Protection Bylaw section 3(2).

Local governments are not limited to the protections found in the MBCA, and they may enact stronger protections for migratory birds on lands within their jurisdiction, as long as protections are not counter to senior government legislation. For example, the City of Delta has a Birds & Biodiversity Conservation Strategy (2018) that sets out goals and objectives for the protection of birds and their habitat, and its OCP identifies critical shorebird habitat as ESAs. [120]

Although the MBCA offers protection for migratory birds, nests and eggs, it offers very little protection for migratory bird habitat. Local governments can strengthen habitat protections through Environmental Development Permit Area (EDPA) requirements and other measures such as establishing Key Biodiversity Areas.[121] For more information on how local governments can protect birds, nests and habitat through their bylaws, see the Green Bylaws Toolkit sections 7.7 and 9.6.

3.2.3 *Fisheries Act*

The *Fisheries Act* [122] regulates fishing, and protects fish and fish habitat, whether they occur on federal, provincial, other public, or private land. It prohibits "the carrying on of a work, undertaking or activity that results in serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery." The Act defines "serious harm to fish" as the death of fish or the permanent alteration to, or destruction of, fish habitat, with fish habitat being spawning grounds and/or nursery, rearing, food supply and migration areas for fish.

For local governments, *Fisheries Act* requirements are applied in BC through the Riparian Areas Protection Regulation (RAPR) (see section 3.3.5) under the provincial *Riparian Areas Protection Act*. The RAPR sets out the minimum requirements that local governments must meet in protecting fish habitat. Fisheries and Oceans Canada has adopted the position that a landowner or developer may meet their *Fisheries Act* obligations in respect of protecting fish habitat by fully implementing the recommendations of a Qualified Environmental Professional who has followed the requirements of the RAPR. [123] Local governments in the project are should embed RAPR requirements in their permitting processes.

Local governments should also make sure they are aware of any critical habitat that has been identified for aquatic species within their jurisdiction by the federal government. If a Ministerial Order under SARA or the *Fisheries Act* is in place to protect critical habitat, its destruction is considered an offence. Local governments may use this information in considering its Development Permit Areas (DPAs) or placing

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[119] Curran et al, s. 29.3, pg. 309
[120] City of Delta, 2024, Official Community Plan: Housing Our Future, https://delta.civicweb.net/filepro/documents/?preview=230680, accessed 10 Feb 2025.
[121] Curran et al, s.29.3, pg. 309
[122] *Fisheries Act,* R.S.C., 1985, c. F-14, https://laws-lois.justice.gc.ca/eng/acts/f-14/, accessed 24 Jan 2025
[123] Curran et al, s. 29.3, pg. 312.

conditions on permits. Information on critical habitat, including "Critical Habitat Orders" and "Critical Habitat Protection Statements" can be found on the Species at Risk Public Registry website. [124]

3.2.4 *Net-Zero Emissions Accountability Act*

Canada has legally committed to achieve net-zero emissions by 2050, and has set an emissions reduction target to be achieved by 2030 of 40-45 percent below 2005 levels. The federal government has announced significant investments and measures to help achieve this result. It has enshrined its 2030 climate targets under the *Canadian Net-Zero Emissions Accountability Act* (CNZEA)[125] which establishes robust accountability structures, including reporting obligations, to support the achievement of these goals. [126]

While the CNZEA does not require compliance on targets by other levels of government, it does ask them for input regarding establishing targets and objectives, and binds the federal government to report on agreements and key cooperative measures undertaken with provinces and other governments. Local governments have an important role to play in reducing emissions, and many have already aligned with Canada's 2050 net-zero target in their own climate related policies. Local measures may include those that protect carbon storing ecosystems such as forests, wetlands, and riparian areas and enhance urban forests for climate resilience. Examples of policies that support these measures are provided in sections 5.7 through 5.11.

For more information on Canada's net-zero strategy, see Exploring Approaches for Canada's Transition to Net-Zero Emissions. [127]

Nature Smart Climate Solutions Fund

The federal government has established several funding streams to help governments and groups across Canada contribute to achieving national emissions targets. The Nature Smart Climate Solutions Fund (NSCSF) is one that local governments can access. The NSCSF provides multi-year funding to projects that apply ecosystem conservation and restoration as a nature-based solution to climate change impacts. Funded projects must aim to reduce GHG emissions from land management actions, store and capture carbon, mitigate the impacts of climate change, build resilience and improve water quality, provide critical habitat for Canada's wildlife; and develop and implement policies, programs or tools to reduce GHG emissions and improve biodiversity.

3.2.5 Canada's 2030 Nature Strategy

In 2022, following a four-year consultation and negotiation process, Canada and several other nations became a signatory to the Kunming-Montreal Global Biodiversity Framework (KMGBF). The KMGBF sets

[124] Government of Canada, Species at risk public registry, https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html, accessed 21 Jan 2025.

[125] *Canadian Net-Zero Emissions Accountability Act*, S.C. 2021, c. 22, https://laws-lois.justice.gc.ca/eng/acts/c-19.3/fulltext.html

[126] Government of Canada website, "Canadian Net-Zero Emissions Accountability Act", https://laws-lois.justice.gc.ca/eng/acts/c-19.3/fulltext.html, accessed 7 April 2026.

[127] Environment and Climate Change Canada, "Exploring Approaches for Canada's Transition to Net-Zero Emissions: Canada's Long-Term Strategy Submission to the United Nations Framework Convention on Climate Change", https://unfccc.int/sites/default/files/resource/LTS%20Full%20Draft_Final%20version_oct31.pdf, accessed 8 April 2026.

out 23 targets and four overarching goals (Figure 4) to halt biodiversity loss, promote ecosystem restoration, ensure sustainable use of natural resources, and enhance the equitable sharing of benefits from biodiversity, especially for Indigenous Peoples. In adopting the KMGBF, all parties committed to setting national targets to implement it, while others were invited to develop and communicate their own commitments.

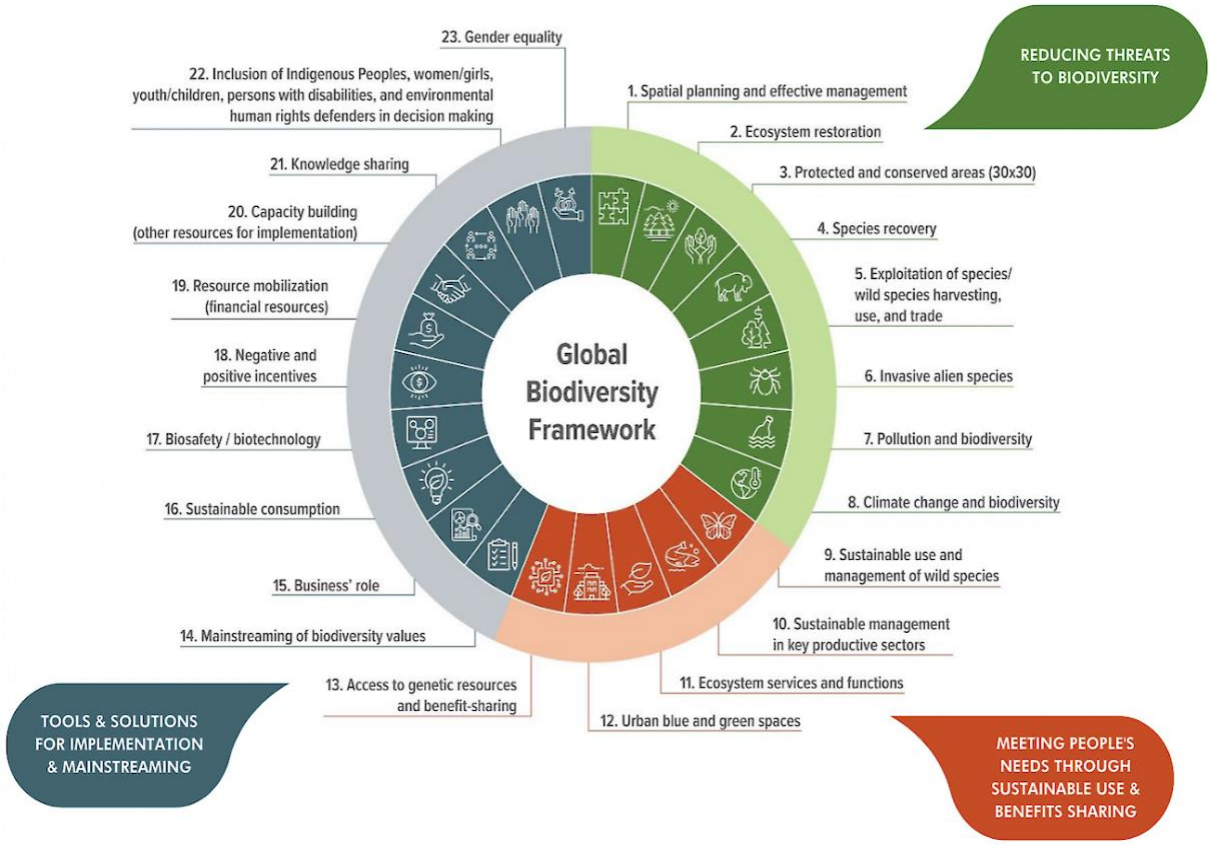

Figure 4. Schematic of the Kunming-Montreal Global Biodiversity Framework goals and targets (source: Government of Canada)

In 2024, Canada established its 2030 Nature Strategy to chart a path for how Canada will implement the KMGBF. The 2030 Nature Strategy builds on existing initiatives in all regions and sectors across the country, recognizing that these efforts have not been and will not be enough, as biodiversity continues to decline in Canada. It adopts a vision to be achieved by 2050 that serves as a guide for actions. [128] Figure 5 presents this vision and the other elements of the 2030 Nature Strategy. Many of these elements are useful for local governments to include in their own climate and biodiversity strategies.

[128] Government of Canada, Canada's 2030 Nature Strategy: Halting and Reversing Biodiversity Loss in Canada, https://www.canada.ca/en/environment-climate-change/services/biodiversity/canada-2030-nature-strategy.html#toc1, accessed 24 Jan 2025.

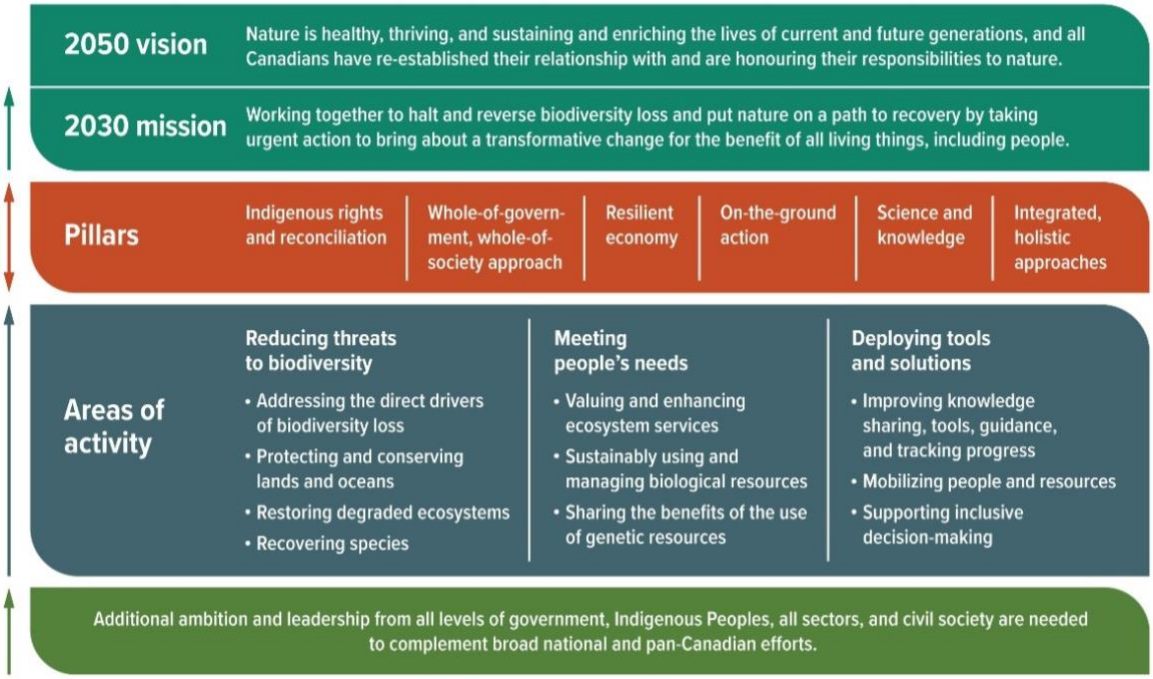

Figure 5. Main elements of Canada's 2030 Nature Strategy (source: Government of Canada)

The strategy aims to get everyone involved, including all levels of government, organizations, and individuals. It recognizes that local governments are important land managers, local experts, and land-use planners; that they have a direct connection to citizens, and are instrumental in connecting those citizens with nature. While there is no legal mechanism requiring local governments to adopt the strategy, its elements provide an excellent framework they can adopt to align their own policies to national policy. For more information and a comprehensive assessment of 2030 Nature Strategy, see "Connecting Canada's 2030 Nature Strategy to the Global Biodiversity Framework (Ray, 2024)." [129]

3.3 Provincial legislation & programs

The provincial government delegates land use planning powers to local governments primarily through the *Local Government Act* [130] and the *Community Charter* [131]. Through these statutes, local governments are empowered to make bylaws, set land use zoning and development permit areas, and (under the *Land Title Act* s. 219), place covenants that can result in protection of riparian areas and other areas of high carbon and biodiversity value (although see section 3.3.4 for discussion on how the 2023 *Housing*

[129] Ray, J, 2024, "Connecting Canada's 2030 Nature Strategy to the Global Biodiversity Framework", op-ed in Wildlife Conservation Society Canada website, https://wcscanada.org/newsroom/stories/the-goals-and-targets-of-the-kunming-montreal-biodiversity-framework-kmgbf/, accessed 24 Jan 2025.

[130] *Local Government Act*, RSBC 2015, c 1, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/r15001_00, accessed 15 Jan 2025

[131] Community Charter, SBC 2003, c 26, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_00, accessed April 2026.

Statutes (Residential Development) Amendment Act affects covenants). For a comprehensive discussion on how the *Local Government Act* and Community Charter empower local governments, see the Green Bylaws Toolkit [132] and section 4.4. Local government tools which describe the legal and policy avenues available to local governments to protect ecosystems. The following sections describe other provincial laws and programs that local governments can leverage in their own bylaws and policies.

3.3.1 *Climate Change Accountability Act* & Local Government Climate Action Program

In 2018, BC enacted its *Climate Change Accountability Act* [133], which sets out targets for reducing greenhouse gas emissions 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050. The act also required all public sector organizations to be carbon neutral by 2010 and for each subsequent year.

The province established sector specific emission reduction targets for four sectors to help reach the 2030 target, including transportation, oil and gas, industry, and buildings and community. Local governments can particularly contribute to emissions reductions under the buildings and community sector through land use policies and decisions that aim to conserve and enhance high carbon ecosystems, such as forests and wetlands. The provincial government's Develop with Care [134] provides comprehensive environmental guidelines for urban and rural land development in BC that can be applied to support provincial climate targets.

The act also created the Climate Solutions Council, a group with representatives from Indigenous communities, local governments, industry, universities, youth and businesses. The council gives government independent advice about climate action. [135]

CleanBC is the provincial government's plan on lowering climate-changing emissions by 40% by 2030 by working with First Nations, local governments, the federal government, and a broad range of organizations and sectors. As part of CleanBC, the province established the Local Government Climate Action Program (LGCAP), which provides local governments and Modern Treaty Nations with predictable and stable funding to allow for cost-effective, impactful, locally implemented climate action. [136]

The LGCAP funding is available to participating local governments and Modern Treaty First Nations for initiatives that reduce GHG emissions and/or support adaptation and mitigate climate-related risks. Under the LGCAP, 'climate action' includes but is not limited to: climate-related hazards; integrating climate change measures into policies, strategies and planning; improving education, raising awareness of climate change causes and solutions; increasing human and institutional capacity with respect to

[132] Curran et al, 2021.

[133] *Climate Change Accountability Act,* SBC 2007 CHAPTER 42, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/07042_01, accessed 29 Jan 2025.

[134] BC Ministry of Environment. 2014. Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. 394 pp with appendices. Available at https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/develop-with-care/dwc-cover.pdf.

[135] Government of BC, 2021?, CleanBC Roadmap to 2030, https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf, accessed 29 Jan 2025.

[136] BC Government website, "Local Government Climate Action Program", https://www2.gov.bc.ca/gov/content/environment/climate-change/local-governments/local-government-climate-action-program.

climate change mitigation and adaptation; and impact reduction and early warning systems. For more information, go to CleanBC's Community Climate Funding Guide.[137]

To qualify for LGCAP funding, local governments must be signatories to the BC Climate Action Charter,[138] a voluntary agreement between the BC government, the Union of BC Municipalities, and each local government signatory to take action on climate change. Since launching in 2007, almost every local government in BC has become a signatory.

3.3.2 *Wildlife Act*

BC's *Wildlife Act* [139] establishes licensing regimes and acceptable practices for hunting, trapping, and fishing in BC. It provides for the designation of extirpated, endangered, and threatened species, although to date there are only four designated species listed (i.e., Vancouver Island marmot, burrowing owl, American white pelican and sea otter). It prohibits the disturbance of species and wildlife habitats (i.e., wildlife management areas on Crown land, designated by BC Cabinet) and the killing, trading, trafficking, and transport of individuals of a designated species. The *Wildlife Act* also prohibits disturbing a muskrat or beaver house or dam, and taking or disturbing a bird, its egg, or a nest when a bird or egg is occupying it, making specific reference to eagles, peregrine falcons, gyrfalcons, ospreys, herons, and burrowing owls.

These general prohibitions apply on all lands in the province, including private and local government-owned lands and local governments must comply with them.[140] Local governments can also use these requirements to guide their own policies, such as EDPAs.

3.3.3 Endangered species and ecosystems

BC has no endangered species legislation or ratified policy on protecting endangered species and ecosystems with the exception of the *Wildlife Act*, which currently lists four species, only one of which occurs in the project area (Vancouver Island Marmot).

The Canada-British Columbia Agreement on Species at Risk sets out how the provincial and federal government will collaborate on the development of species and ecosystem at risk recovery plans. The recovery plans include actions to help stop or reverse the decline and remove threats to long term survival. The province focuses delivery of actions on Crown land rather than private land. The recovery plans are linked to the work undertaken by the BC Conservation Data Centre (CDC), which ranks species and ecosystems as red-listed (extirpated, endangered, or threatened in BC) or blue-listed (of special concern in BC) based on the degree of threat. While these designations have no legal consequences, they provide important information that should be used to guide land-use and management decisions and should be referenced by QEPs undertaking environmental site assessments.

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[137] CleanBC website, "Community Climate Funding Guide" https://communityclimatefunding.gov.bc.ca/ , accessed 29 Jan 2025.

[138] British Columbia Climate Action Charter, https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/planning-land-use/bc_climate_action_charter.pdf accessed Jan 2025.

[139] *Wildlife Act,* RSBC 1996, c 488, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96488_01, accessed 7 Jan 2025.

[140] Curran, GBTK s. 29.4, pg. 321

The provincial *Wildlife Act* (see section 3.3.2) protects virtually all vertebrate animals from direct harm, except as allowed by regulation (e.g., hunting or trapping). It provides protection of habitat for these species, but only within designated wildlife management areas. The *Wildlife Act* provides no protection for invertebrates (e.g., butterflies, bees, snails) or plants.

Local governments that wish to embed protection for endangered species and ecosystems in policies and decision-making will need to make use of other tools, such as Development Permit Areas, aspects of the *Wildlife Act*, and potentially the RAPR (see section 3.3.5). To protect sensitive ecosystems and ecosystems that support species at risk, local governments can include policy in their OCP that indicates their intent to protect terrestrial and aquatic. The OCP should include a map or make reference to maps of Environmentally Sensitive Areas (ESAs) as identified in the Biodiversity Atlas or as identified by a QEP. The ESA maps would be included in the OCP appendices and would be linked to guidelines in and EDPA to enable these areas to be protected through the permitting system. The OCP can also include wording to include updated ESA mapping in future, to ensure mapping is as current as possible.

3.3.4 *Housing Statutes (Residential Development) Amendment Act* (2023)

In 2023, the BC government brought into force the *Housing Statutes (Residential Development) Amendment Act* ("Bill 44") [141] as part of its approach to addressing housing shortages. The act makes several significant amendments to the *Local Government Act* to enable more housing density, mainly by allowing more units on traditional single-family and duplex lots.

Some of the LGA amendments were enabled through the new Local Government Zoning Bylaw Regulation, which was brought into force in December 2023. Bill 44 mandated local governments to amend their zoning bylaws to comply with new small-scale multi-unit housing (SSMUH) density requirements by June 30, 2024. Essentially, the province required local governments to rezone all single-family properties. To help local governments understand and comply with these legislative changes, the province released Provincial Policy Manual & Site Standards ("the manual"), which deals with SSMUH.[142]

Concerns have been raised regarding environmental implications of the new zoning requirements and whether they supersede or conflict with overlapping provincial legislation, such as the Riparian Areas Protection Regulation (see section3.3.5), and/or environmental regulations put in place by local governments. However, the legislation and the manual are clear:

- Local governments can continue to direct development away from areas of ecological significance such as in EDPAs, and require mitigation or compensation to avoid harmful impacts, but cannot implement environmental protections that prevent SSMUH if there are no site conditions or objectives that would legitimately warrant those protections.[143]

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[141] *Bill 44 Housing Statutes (Residential Development) Amendment Act 2023*. https://www.bclaws.gov.bc.ca/civix/document/id/bills/billsprevious/4th42nd:gov44-1,accessed Feb 2025

[142] Government of British Columbia, 2023, Provincial Policy Manual & Site Standards, https://www2.gov.bc.ca/assets/gov/housing-and-tenancy/tools-for-government/local-governments-and-housing/ssmuh_provincial_policy_manual.pdf, accessed Feb 2025.

[143] Government of British Columbia, 2023, Provincial Policy Manual & Site Standards, Part 3, s. 1.3, pg. 50.

- For riparian areas, the SSMUH legislation does not supersede RAPR or measures put in place to meet or exceed provincial standards. If a proposed SSMUH development conflicts with overlapping provincial legislation, the provincial legislation takes precedence. [144]
- For DPAs, the SSMUH legislation allows local governments to continue to use them provided they do not unreasonably restrict the ability to use land at the use or density prescribed by the legislation provisions (see Section 457.1 of the SSMUH legislation, which applies the corresponding section of the LGA).

Essentially, a local government cannot, as before, use the following regulatory powers to *unreasonably prohibit or restrict* the SSMUH density: [145]

- development areas and DPAs
- temporary use permits
- development variance permits
- tree cutting permits
- zoning bylaws
- phased development agreements
- runoff control bylaws
- flood plain bylaws
- sign bylaws
- screening and landscaping bylaws
- heritage alteration permits
- heritage conservation areas

This does not mean the regulations listed above will not apply to SSMUH developments. Rather, those regulations cannot "unreasonably prohibit or restrict" the SSMUH density. If an SSMUH development permit decision goes to court, it is possible that a court will find that an unreasonable prohibition or restriction is one that is not based on any rational analysis and that is not justified in the circumstances. For example, it would be reasonable for a local government to restrict tree cutting in connection with an SSMUH development in accordance with its tree bylaw. This makes a strong case for local governments ensuring the rationale for their policies and regulations are well-documented and based in science, as applicable.[146]

In general, local government response should be balanced with other provincial initiatives that prioritize biodiversity and ecosystem health, such as the Union of BC Municipalities' resolutions calling for biodiversity legislation in BC (2022), and the province of BC's Climate Preparedness and Adaptation Strategy (Actions for 2022-2025).

3.3.5 *Riparian Areas Protection Act* and Regulation

The *Riparian Areas Protection Act* (RAPA) [147] requires certain areas of BC [148] to protect fish-bearing watercourses during residential, commercial, and industrial development. Local governments are given the authority to do so under Part 14 of the *Local Government Act*. Under RAPA, the Riparian Areas Protection Regulation (RAPR) applies to streams that support fish habitat. This includes (a) a watercourse

[144] Government of British Columbia, 2023, Provincial Policy Manual & Site Standards, Part 1, s. 7.9, pg 25.

[145] Enns, J., 2024, Small-Scale Multi-Unit Housing Zoning: Legislation and Best Practices, report prepared for the Lidstone & Company Housing Needs – Legal Workshop held February 7, 2024, 192 pp.

[146] Buholzer, B, 2024 "Hello ACCs – Good-bye CACs?", article in Planning West Spring 2024, https://www.pibc.bc.ca/sites/default/files/internal_pages_pdfs/planning-west/PIBC-PW-Spring2024-WEB-FINAL.pdf, accessed March 2025.

[147] *Riparian Areas Protection Act,* SBC 1997, CHAPTER 21, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/00_97021_01, accessed 7 Jan 2025.

[148] RAPA applies to all local government jurisdictions in the project area except Alberni-Clayoquot Regional District.

or body of water, whether or not usually containing water, and (b) a ditch or spring, whether or not usually containing water, and a wetland, any of which are connected by surface flow to the watercourses or bodies of water referred to in (a).

The goal of RAPR is to protect the features, functions, and conditions that are vital for maintaining stream health and productivity, to protect habitat and conditions that support fish, and to satisfy federal *Fisheries Act* requirements prohibiting harm to fish. It sets out processes for avoiding harmful alteration, disruption, or destruction of fish habitat by determining setbacks for development from watercourses and mitigating damage to riparian fish habitat. RAPR does not supersede any other relevant legislation that local governments or private landowners are subject to.

The scope of development activities that engage RAPR is very broad and includes adding, removing or altering soil, vegetation, or a building or other structure, and this includes works and services relating to subdivisions. Where development is proposed within a riparian assessment area, RAPR requires that the local government not approve the proposal unless a QEP assesses the development and prepares a report. The assessment must identify whether the proposed development may harm riparian areas that provide fish habitat. It is imperative that QEPs hired to carry out riparian area assessments have completed the provincial Riparian Areas Protection Regulation training course.

Further guidance on the process, specifications for QEP assessments, and considerations for setbacks can be found in the Riparian Areas Protection Regulation Technical Assessment Manual [149] or the summary provided in the Green Bylaws Toolkit section 15.1. (Note: the provincial *Riparian Areas Regulation Guideline* that is still available online is out of date and should not be used.)

By now, local governments subject to RAPR will have established their procedures for applying RAPR requirements. However, RAPR continues to cause controversy and misinterpretation, particularly regarding where and how it applies. For example:

- Some local governments have faced **legal challenges** after denying development permit applications within a riparian assessment area (for example, see Court of Appeal Interprets Riparian Regulation [150] although note this was a challenge of the old Riparian Areas Regulation; also this 2023 article in the Cowichan Valley Citizen[151]). These legal challenges have caused some Councils to question riparian protection in some instances.
- There has been misunderstanding regarding the **application of RAPR to ALR lands** or land designated for agriculture. RAPR does not apply to activities defined as "normal farm practices" under the *Farm Practices Protection (Right to Farm) Act*, but it does apply to residential, commercial and industrial development on ALR/agricultural lands. Unfortunately, this does not

[149] Ministry of Forests, Lands, Natural Resource Operations and Rural Development Fish and Aquatic Habitat Branch, 2019, Riparian Areas Protection Regulation Technical Assessment Manual, https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rapr_assessment_methods_manual_for_web_11.pdf, accessed 3 Feb 2025.

[150] Hargraves, M, 2011, Court of Appeal Interprets Riparian Areas Regulation, article on Stewart McDannold Stuart website, https://www.sms.bc.ca/2011/08/court-of-appeal-interprets-riparian-areas-regulation/, accessed Feb 2025.

[151] Barron, R., 2023, BC Court of Appeal sides with CVRD in land dispute, district claims. Article in Cowichan Valley Citizen, 10 Feb 2023.

address potential impacts of farming operations on riparian areas and hydrologically sensitive areas. For discussion on options, see section 3.4.11.

Despite its challenges, RAPR assessment and setback requirements can provide guidance for many local governments to start protecting watercourses with the assistance of senior government. Although RAPR focusses on riparian fish habitat, local governments are free to use their powers under the LGA to protect other values, and RAPA section 12(4)(b) clearly gives local governments authority to exceed RAPR guidelines, stating that local governments subject to RAPA must either:

(a) include in zoning and land use bylaws riparian area protection provisions in accordance with the directive, *or*

(b) ensure that bylaws and permits under Part 14 of the *Local Government Act* or Part XXVII of the *Vancouver Charter*, as applicable, provide a level of protection that, in the opinion of the local government, is comparable to or exceeds that established by the directive.

For discussion regarding inclusion of riparian protections in OCPs and exceeding RAPR guidelines, see section 3.4.11. In cases where RAPR does not apply (e.g., Alberni-Clayoquot Regional District), the *Water Sustainability Act* and *Fisheries Act* still apply, but it is necessary to accurately map watercourses. Local government can create development permit areas for riparian protection and can enforce them through those two statutes, if the streams and watercourses are considered important for fish.

3.3.6 *Water Sustainability Act*

The purpose of BC's *Water Sustainability Act* (WSA) [152] is to govern water use and protect stream health and aquatic environments. The WSA defines 'stream' as including water bodies such as lakes, ponds, rivers, creeks, springs, ravines, gulches, and wetlands with open standing water (this is an expanded definition of wetland beyond the limited definition under the former *Water Act*).

The WSA enables the establishment of water objectives for a watershed, stream, aquifer or other specified area or environmental feature to sustain water quantity and quality for specific uses or to sustain aquatic ecosystems. It also includes a legal requirement to set aside enough water for the health of riparian areas and the aquatic environment. Environmental flow needs (EFNs) must now be considered when making water allocation decisions.

Under the WSA, changes in and about a stream require written authorization or approval from the province. Such changes include modifications to the nature of the stream, including any modification of the land, vegetation and natural environment of a stream or the flow of water in a stream; or any activity or construction within a stream channel that has or may have an impact on a stream or stream channel, e.g. stream diversions, bridge construction where abutments or pilings are within the channel culvert.

Change approvals are granted with terms and conditions attached. These may stipulate the time of year that modifications or activities may take place and other measures for protecting the aquatic environment. A simpler notification process is available for low risk changes or activities having minimal impact on the environment and that meet the Part 3 requirements of the Water Sustainability

[152] *Water Sustainability Act*, SBC 2014, CHAPTER 15, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/14015, accessed 21 Jan 2025.

Regulation. [153] For more information, see A User's Guide for Changes in and About a Stream in British Columbia. [154]

Local governments may work with senior levels of government to prosecute and remedy major offences. The provincial Ministry of Water, Land and Resource Stewardship may lay charges under the WSA for making unauthorized changes in and about streams or obstructing the channel of a stream. [155] However, capacity at the provincial level is limited and reports of infractions are not always investigated. Local governments can remedy this and avert potential offences before they happen by enacting their own bylaws that enshrine WSA prohibitions.

Another possible approach is to establish a Water Sustainability Plan through a water management table, a novel legal tool introduced under the WSA ss. 64-85. Water management tables may consist of local government, First Nations, stakeholders, industry, and community members as appropriate, working with provincial government toward common water sustainability objectives.

For example, the province and Cowichan Tribes have signed an interim agreement and are on their way to creating the province's first-ever Xwulqw'selu Planning Agreement. The agreement has led to the development of a whole-of-watershed plan that may include recommendations for other Cowichan Tribes and provincial senior management, as well as policy, and regulatory actions to address watershed issues. Plan recommendations may be directed toward local, provincial, and federal governments, as well as community associations, watershed residents, and industry partners. A community guidance table and Community Collaborative Advisory Table provide input.

3.3.7 *Weed Control Act* and options for invasive species

Invasive species are those species that are considered harmful and whose introduction or spread threatens the environment, the economy, or society, including human health. At the local level, they can cause economic impacts and land management hazards such as increased fire fuel, erosion, and physical harms. This is certainly true in the project area, where some of Canada's rarest species and ecosystems co-occur in areas that face the greatest land development pressures and with the highest concentrations of invasive species—plants in particular.

Local governments have two main legal tools available to them to enable actions to control invasive species: (1) they can adopt control of the species listed on Schedule A of the Weed Control Regulation; and (2) they can develop an invasive species program and/or bylaws under the *Local Government Act* (for regional districts), or Community Charter (for municipalities). [156]

The *Weed Control Act* applies to all lands in BC except federal lands. It imposes a duty on a land occupier to control designated noxious weeds "growing or located on the land and premises, and on any other property located on land and premises, occupied by that person." [157] Schedule A of the Weed Control

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[153] Water Sustainability Regulation, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/36_2016, accessed 21 Jan 2025.

[154] BC Government,2022, "A User's Guide for Changes in and About a Stream in British Columbia", https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/working-around-water/wsa-cias-users_guide.pdf, accessed 21 Jan 2025.

[155] Curran et al, s.16.12, pg. 185.

[156] Curran et al, s. 29.2.3, pg. 306.

[157] *Weed Control Act,* RSBC 1996, c 487, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96487_01#section2 , accessed 24 Jan 2025.

Regulation lists 39 provincial weeds. It also lists 27 regional weeds, none of which are known to occur in the project area as yet.

Several invasive plant species that are having economic and environmental impacts in the project area such as English ivy, Scotch broom, poison-hemlock, or carpet burweed are not included under Schedule A of the Weed Control Regulation. This is because these species are considered by provincial officials to be too established or too localized to control effectively, and because the *Weed Control Act* was developed with agriculture as a priority. To address this, and to enable bylaws for controlling invasive animal species as well as plants, local governments may "regulate, prohibit and impose requirements" under the authority Community Charter sections 8(3)(j), 8(3)(k), 9(3)(a) and 15 [158]; and the Spheres of Concurrent Jurisdiction - Environment and Wildlife Regulation s.2(1)(b)(iii) control and eradication. [159]

In conjunction with enforcing bylaws that regulate invasive species on private lands, local governments should ensure they have a resourced program in place to manage invasive species and restore public lands, such as natural area parks and trails. Community education and a commitment to supporting volunteers are essential components to success in any invasive management program.

3.3.8 Forest Landscape Planning Framework

The *Forest and Range Practices Act* (FRPA) regulates forestry activities taking place on BC Crown land. The FRPA and its regulations have been using a results-based approach to forest management: rather than stipulating what steps forestry companies must take to protect wildlife, habitat and other ecological features, the province established a series of broad government objectives that works within the professional reliance model to determine how they will achieve them, through Forest Stewardship Plans (FSP). Local governments have had little to no involvement in this process apart from f opportunities to comment on FSPs during a public review period.

Recently, the province has introduced a forest landscape planning (FLP) approach to forest stewardship. It is intended to establish clear outcomes for the management of forest resource values within defined areas. FLPs, which will replace Forest Stewardship Plans (FSPs) over the next several years, are intended to bring high-level strategic land use planning direction to a specific forest management area and bridge the gap between strategic land use planning and operational/site-level planning.

FLPs are meant to be completed in partnership with First Nations and in collaboration with forest licensees. Structured engagement will occur at each of the various milestones of the planning process to gather input from interested groups, local communities, and the public. Engagement methods may vary in each FLP. Once complete, FLPs will be established by the chief forester in consultation and cooperation with First Nations communities.

Local governments are not explicitly identified as FLP participants; however, they can benefit from involvement in the engagement process. They should consider how an FLP might affect land use and land acquisition decisions within and adjacent to their jurisdictions, as well as potential environmental

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[158] Community Charter, SBC 2003, c 26.. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_00, accessed April 2026.

[159] Community Charter, Spheres of Concurrent Jurisdiction—Environment and Wildlife Regulation, BC Reg 144/2004, https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/144_2004, accessed 24 an 2025.

impacts of logging, such as flooding and landslides, on their communities. This is important for the integrity of ecosystem connectivity and wildlife corridors, and high carbon ecosystems such as wetlands.

There are currently five FLP pilots underway, one of which, the Sunshine Coast FLP Pilot Project, is in the project area. To learn more about FLPs, see the Forest Landscape Plans FAQ or the BC government FLP website. [160]

3.3.9 Private Managed Forest Land Program

The Private Managed Forest Land Program was established in 2003 under the *Private Managed Forest Land Act* (PMFLA) [161], under which landowners commit to manage their property for long-term forest production, including meeting legislated objectives for key public environmental values. Designation as "private managed forest land" is voluntary: the landowner applies to have the land designated and, if approved, must carry out any forestry activities in accordance with the requirements of the PMFLA and its regulations.

The PMFLA restricts local government jurisdiction over lands designated as private managed forest land. Once the designation is approved, a local government may no longer adopt bylaws or issue permits that would have the effect of restricting, directly or indirectly, forest management activities on the designated land. This includes bylaws that do not directly apply to the land in question, but still have the effect of restricting forestry activities on it. Local governments are free to continue regulating the designated land in other ways but need to consider how their land-use decisions might affect lands designated under the PMFLA. [162]

Similarly, local governments should consider how PMFL activities in or adjacent to their jurisdiction might affect and impinge on decisions such as land acquisition for conservation, flood or watershed management, carbon storage, ecological connectivity and urban forest canopy retention and targets.

3.3.10 Declaration on the Rights of Indigenous Peoples Act (DRIPA)

On September 13, 2007, the United Nations General Assembly adopted the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP). It establishes a universal framework of minimum standards for the survival, dignity, and well-being of the Indigenous peoples of the world, and elaborates on existing human rights standards and fundamental freedoms as they apply to the specific situation of Indigenous peoples.[163] In 2016, Canada fully adopted UNDRIP and committed to implementing its principles.

In November 2019, the BC government unanimously enacted the *Declaration on the Rights of Indigenous Peoples Act* (DRIPA), which affirms the application of UNDRIP to provincial law and requires provincial laws to align with UNDRIP. DRIPA is enabling legislation, which means that it does not explicitly make

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[160] BC Government website, "Forest Landscape Plans", https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-landscape-plans, accessed 28 Jan 2025.

[161] *Private Managed Forest Land Act*, SBC 2003, c 80, s. 21, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03080_01, accessed 21 Jan 2025.

[162] Curran et al, s. 29.4, pg 317.

[163] United Nations Department of Economic and Social Affairs website, Indigenous People, "United Nations Declaration on the Rights of Indigenous Peoples", https://social.desa.un.org/issues/indigenous-peoples/united-nations-declaration-on-the-rights-of-indigenous-peoples, accessed 19 Jan 2025.

changes to regulatory frameworks, operational decision-making, or consultation requirements but rather enables and requires other laws to make changes over time.[164]

The provincial government has yet to amend the *Local Government Act* or Community Charter to align with UNDRIP, so there is no legal requirement for local governments to apply UNDRIP principles in their policies, and recent case law confirms that local governments' land use planning powers are not subject to UNDRIP. [165] However, given local governments' jurisdiction over land use, many of their decisions have an impact on Indigenous rights and authority within their traditional territories. [166] Local governments may wish to proactively consider how they can incorporate UNDRIP into their operations and relationships with Indigenous governments within their jurisdiction.

By adopting UNDRIP, local governments can strengthen integration of biodiversity protection into their policies, and work with First Nations to identify lands and species of cultural and ecological significance. For example, in 2020, the City of Courtenay adopted UNDRIP, and in 2022, incorporated UNDRIP's principles into its updated OCP. Working with the K'ómoks First Nation to integrate the principles into planning and decision-making processes, the updated OCP includes a commitment to protect and restore Indigenous subsistence and recreational values under its Natural Environment objectives. [167,168] For a more detailed discussion of First Nations and Local Governments: Perspectives and Opportunities, see the Green Bylaws Toolkit section 29 Appendix 1. [169]

3.4 Local government tools

3.4.1 Overview

Local governments have a unique and critical role to play in managing the risks of a changing climate because of the localized nature of many climate impacts. They are well positioned to implement adaptive measures through land use planning and mechanisms like zoning or permit regulations. [170] Because local governments and ecosystems vary, there is no one best way to preserve biodiversity or deliver climate adaptation. The combination of approaches that local governments may choose to adopt depends on a variety of factors:

- geographic location
- historic pattern of land use
- presence of species at risk
- ecosystem rarity & conditions
- local government culture
- local government size (land base, tax base, and population)
- funding priorities
- rate of development

[164] Curran et al, s. 29, pg 363.

[165] Harding R, Ruston N, 2023, DRIPA and Local Governments. https://www.younganderson.ca/assets/seminar_papers/2023/DRIPA-and-Local-Governments.pdf, accessed 18 Jan 2025.

[166] Curran et al, s. 29, pg 362.

[167] City of Courtenay website, "Courtenay Adopts United Nations Declaration on the Rights of Indigenous Peoples", https://www.comoxvalleyrd.ca/connect/news/cvrd-adopts-statement-reconciliation-and-encourages-federal-government-follow-through, accessed 8 April 2026.

[168] The Corporation of the City of Courtenay, 2022, Bylaw 3070 Schedule A, City of Courtenay Official Community Plan, https://www.courtenay.ca/Development-services/planning-and-land-use/zoning-and-policy/official-community-plan, accessed 8 April 2026.

[169] Curran et al, s. 29 Appendix 1, pg. 360.

[170] Richardson, G. R. A., 2010, Adapting to Climate Change: An Introduction for Canadian Municipalities. Ottawa, Ont. Natural Resources Canada, 40 pp., https://publications.gc.ca/site/eng/9.693926/publication.html, accessed 7 April 2026.

- staff expertise
- administrative capacity
- political will

When developing biodiversity and climate adaptation policies, most local governments use a combination of one or more regulatory bylaws, such as protecting riparian areas, and the creation of EDPAs, guidelines, and policies. [171]

The following sections explore these different approaches and tools that local governments use to protect biodiversity and advance climate adaptation. Section 4 then provides effective policy objectives and provisions that local governments can adopt.

3.4.2 Achieving objectives: taking a nested approach

In general, local governments will achieve stronger support and possibly greater success if they embed climate and environmental objectives throughout their policies and departments, from coarse scale to fine. Local governments can embed goals for biodiversity protection and climate resilience in a Regional Growth Strategy (RGS) or OCP, and providing specific and more detailed direction through a biodiversity or climate strategy, and then engage in more specific implementation such as through developing EDPAs.

Public support for EDPAs (see section 3.4.8) and other green bylaws tends to be stronger when these are brought in as part of a broader OCP review or biodiversity strategy, rather than presenting them in isolation as a new initiative. EDPAs are inherently political, as they affect different properties in different ways. They need to connect within a broader policy and regulatory framework to withstand critiques based on the perception of private property rights.[172] Figure 6 illustrates this point, showing the nested approach to support protection of connectivity corridors. Each level should be informed by consistent measurable objectives set out at the regional biodiversity strategy or OCP level.

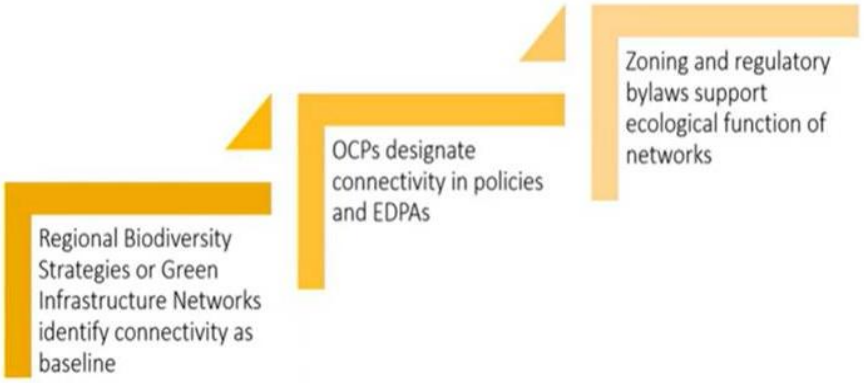

Figure 6. Nested approach to building habitat connectivity into a policy framework [173]

3.4.3 Regional Growth Strategies

Regional Growth Strategies (RGS) are enabled under the *Local Government Act* (LGA) Part 13. Under section 428(1), the purpose of an RGS is to promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources. An RGS is a voluntary consensus-based regional land use planning policy document

[171] Curran et al, s. 4.6.2, pg. 32.
[172] Curran et al, s. 9.9.1, pg. 125.
[173] Green Bylaws Toolkit 101, webinar 2021.

coordinated by a regional district for its member municipalities. It is developed collaboratively between local governments, with engagement of the province, First Nations, other public bodies, the public, and business and community stakeholders. An RGS should address regional issues such as transportation, economic development, housing needs, settlement patterns, and environmental goals with a 20-year timeline. All regional district bylaws and plan and all OCPs of member local governments must be consistent with the RGS.[174],[175]

LGA section 428 sets out the goals an RGS should work toward. One is to protect environmentally sensitive areas (ESA) [s.428(2)(d)]. Another is good stewardship of land, sites and structures with cultural heritage value [s.428(2)(n)]. Local governments can use an RGS to get agreement on acquiring priority ESAs as parkland and to designate regional greenways and habitat corridors. An RGS can also incorporate regional conservation plans and other regional documents that detail the protection of green infrastructure. Many RGS either identify or make reference to the importance of urban containment boundaries, which can be crucial for protecting green infrastructure. An RGS may also promote integrated watershed management involving several local governments [176] or raise the profile of regional issues. Each of these should be based on recent and high-quality mapped information.

3.4.4 Regional Conservation Strategies

Although an RGS may include environmental goals, its primary function is to guide regional growth. In some regions, a Regional Conservation Strategy (RCS) or plan may be warranted. An RCS can describe ecological principles and conservation goals and actions aimed at maintaining and enhancing the biological diversity of a region and protect or restore ecologically significant areas. This involves establishing a geographical framework for the strategy by mapping and analyzing habitat types, rare and significant species and ecosystems, and other biodiversity values.

An RCS should be based on a sound scientific foundation for conservation goals and objectives and provide local and senior governments and other stakeholders with management priorities and planning tools that can help them make decisions that ensure local habitats persist as viable elements of healthy regional watersheds and ecosystems.

Unless well-crafted, implementing an RCS can face several challenges, such as limited legal influence and the need for agreement among member municipalities and the regional board. This may lead to compromises on ecological goals and actions. In many cases, regional board members and municipalities have been unwilling to allow a regional document to influence municipal action significantly, particularly those related to land use planning.

However, an RCS can offer advantages: it promotes a big-picture, landscape view of the region as a whole and provides a framework for considering conservation options for entire ecosystems and watersheds. This presents opportunities for collaboration among municipalities on conservation efforts, often with cost-saving benefits. For example, an RCS can consider the whole extent of a riparian corridor that crosses municipal boundaries. Land use planning that reflects this larger view and considers the

[174] BC government website, "Regional Growth Strategy", https://www2.gov.bc.ca/gov/content/governments/local-governments/planning-land-use/local-government-planning/regional-growth-strategies

[175] *Local Government Act* Part 13, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/r15001_13#part13, accessed 28 Jan 2025.

[176] Curran et al, s. 5, pp. 43-46.

wellbeing of whole ecosystems can make effective use of shared resources and significantly reduce the jurisdictional fragmentation that plagues many regional districts. Two RCS examples are provided below.

RCS example 1: Metro Vancouver's Climate 2050 Nature & Ecosystems Roadmap

MetroVan's Climate 2050 Nature & Ecosystems Roadmap is a regional conservation strategy that fits within MetroVan's Climate 2050, an overarching strategy to transition that region to a low carbon, resilient region over the next 30 years. The Climate 2050 Nature & Ecosystems Roadmap lays out goals, targets and 31 actions under strategy themes for storing carbon and increasing resiliency, organized under five strategic areas. It acknowledges that working closely with First Nations, the federal and provincial governments, member jurisdictions, and other key partners is critical to effectively implementing and achieving these. The list of strategy themes and actions can be found in Table 7.

RCS example 2: Islands Trust Conservancy Regional Conservation Plan 2018-2027

Established in 1990, the Islands Trust Conservancy (ITC) is a land trust and part of Islands Trust. The ITC is dedicated to preserving and protecting the fragile and unique ecosystems of the Islands Trust Area in the Salish Sea. This region includes 450 islands between southern Vancouver Island, the mainland of BC, and Howe Sound.

The ITC's Regional Conservation Plan ("the plan") provides detail on land status and land use, current ecosystems, protected areas and changes to the landscape over the last ten years, and sets conservation goals and objectives for the next ten years. The plan is science-based and community-informed, applying ecosystem values, threats, and current levels of conservation.

The ITC uses the plan as a tool to focus staff, board, and financial resources on areas with the highest biodiversity values and greatest need for conservation. Although its use is not embedded in Island Trust's policy, it is sometimes used by Islands Trust decision makers to support ecologically responsible land use planning and is a resource for citizens and organizations working towards conservation of biodiversity within the Islands Trust Area. For more information, see ITC's Summary of the Regional Conservation Plan (2018-2027).[177]

3.4.5 Official Community Plans

Official Community Plans (OCP) are enabled under the *Local Government Act* sections 471-475, 477-478 [178] and are adopted as a local government bylaw. An OCP articulates a community's objectives and policies regarding land use, community development, and operations. Comprehensive updates are required every five years; this should keep OCPs aligned with changing conditions. Under the LGA, OCPs may contain policies for the "preservation, protection, restoration and enhancement of the natural environment, its ecosystems and biological diversity." [179] With this authority, they may, for example, set EDPA guidelines for protecting ecosystems.[180]

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[177] Islands Trust Conservancy, 2018, Regional Conservation Plan 2018-2027, https://islandstrust.bc.ca/conservancy/conservation-planning/planning-2018-2027/, accessed 7 April 2026.
[178] *Local Government Act*, Part 14, ss. 471-475, 477-478.
[179] *Local Government Act*, s. 471(1)(d).
[180] Curran et al, s. 7, pg. 56.

While OCPs are viewed as policy, their direct impact is through subsequent enactment of land use bylaws (i.e., zoning; see section 3.4.7) and EDPAs (see section 3.4.8). Their principal effect is on the local government itself, since it is prohibited from adopting bylaws that are inconsistent with its OCP. [181]

Any development proposals, works, or projects undertaken, whether by the local government or private proponent, must be consistent with the OCP. Therefore, the more specific and detailed the OCP policies are, the more direction landowners and staff will have about public expectations for conservation and the regulatory changes that are needed to implement the OCP. This can help planning staff and councils decide whether a proposed development fits with the community's goals and desired pattern of land use. It can also guide the development sector and landowners toward the most appropriate forms of development. Similarly, OCPs help councils assess the merits of development proposals and make decisions on applications for variance permits. OCPs can also direct applicants to terms of reference for evaluating the impacts of development, and they can require development proposals to conform to best management practices that senior levels of government or other organizations recommend. [182]

OCPs usually include designations of EDPAs, their justifications, and detailed guidelines. OCPs can respond to listings under the federal SARA for extirpated, endangered, or threatened species (see sections 3.2.1 and 3.3.3). For example, strong OCP policies can provide direction to approving officers when they are reviewing applications for subdivision in areas where species at risk or their critical habitat may occur. OCP policies may also influence the kinds of conditions an approving officer places on subdivision approvals (see Section 4.9 for example OCP policy provisions regarding species at risk).

3.4.6 Environmental strategies

Local governments often enact environmental strategies that set out why and how they will deliver on policies and principles set out in an OCP, RGS, or RCS. Strategies may be specific to such issues as biodiversity, climate adaptation, land and parks acquisition, urban forests, or watershed management. Ideally, they will clearly integrate with broader policies and plans as well as implementation tools, such as bylaws (see the nested approach described in section 3.4.2).

Environmental strategies in general will:

- provide a vision statement;
- describe the context of the jurisdiction (ecological, geographic, cultural, economic etc.);
- set out guiding principles and objectives that mirror those in the OCP or RGS and links to existing or amended bylaws if enforcement might be necessary;
- show how the strategy is linked to other policies, including cross-jurisdictional ones;
- set out specific actions and an implementation plan (this might be in a separate action plan);
- set out a monitoring, assessing, and reporting framework, including performance indicators.

The Biodiversity Atlas provides information that local governments can use to inform such strategies and, when implemented, to track performance and adapt actions as needed.

[181] *Local Government Act*, ss 445, 446.
[182] Curran et al, s. 7, pp. 56-57

Biodiversity / Conservation strategies

A biodiversity strategy will, in addition to the general parameters above, present the key biodiversity indicators that will be used to establish baseline conditions (e.g., state of the environment studies) and measure performance. These may include:

- diversity of habitat types
- seral stages (for forests)
- species richness
- habitat connectivity
- rare habitat types and unique ecosystem features

The following examples illustrate approaches, challenges and solutions local governments have considered when developing and implementing their biodiversity strategy.

BCS example 1: City of Surrey Biodiversity Conservation Strategy [183,184]

In 2011, using mapping, GIS, and principles of landscape ecology and conservation biology, the City of Surrey carried out an Ecosystem Management Study (EMS) to identify a connected network of features considered most critical to long-term ecological health. The work involved assessing urban forests, wetlands, riparian areas, parks, boulevards, and other habitat for their wildlife value, community development potential, recreation potential, and storm-water management. The information was used to create a Green Infrastructure Network (GIN). Approximately 2,700 ha of the GIN have been secured through a range of land dedication mechanisms. A map of the GIN is shown in Figure 7.

The findings were used to make policy recommendations and guide future development planning, parkland acquisition and protection, green building standards, agricultural biodiversity, and climate change education and awareness. The EMS and the GIN informed Surrey's Biodiversity Conservation Strategy, which was adopted in 2014, and have since been integrated into their Sustainability Charter; Climate Change Action Strategy; Parks, Recreation and Culture Strategic Plan; Urban Forest Management Strategy; and Integrated Stormwater Management Planning.

[183] City of Surrey website, "Biodiversity Conservation", https://www.surrey.ca/renovating-building-development/land-planning-development/environmental-protection/biodiversity, accessed 29 Jan 2025.
[184] City of Surrey, 2024, "What's working well with the Biodiversity Conservation Strategy?", internal memo, 3 pp.

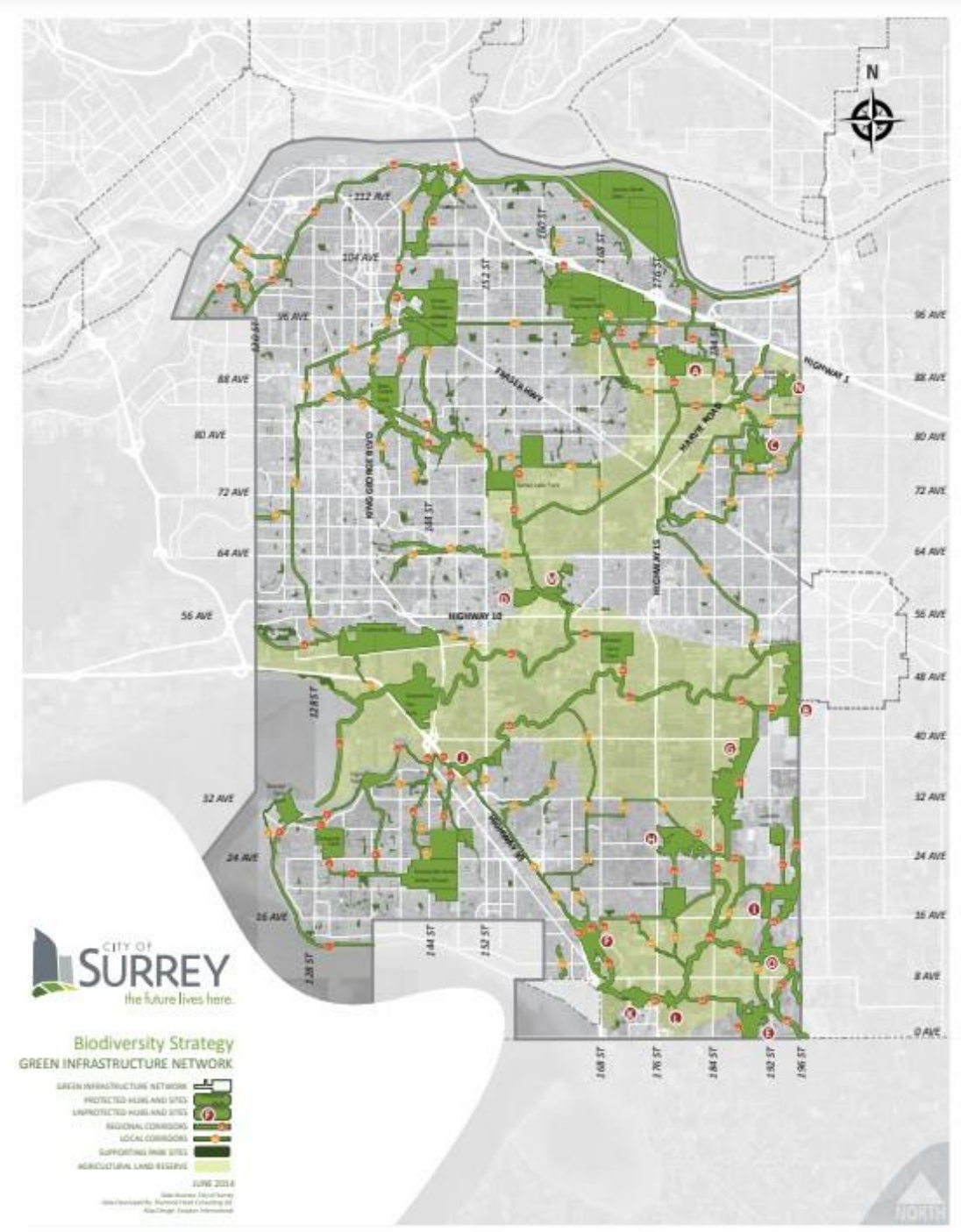

Figure 7. Map of City of Surrey's Green Infrastructure Network (source link)

Two monitoring frameworks were also developed: one to help the City detect ecological changes in the GIN, and another to manage the City's internal performance and progress with their biodiversity objectives, including specific management benchmarks for comparison with other municipalities across Canada and abroad.

Surrey is using several tools to achieve its BCS targets:

- GIS mapping and analysis for identifying and monitoring the BC GIN;
- Biodiversity design guidelines that provide practical implementation steps for planners and developers;
- EDPA policies that are linked to the OCP;
- Public outreach engagement strategies to build community and council support;
- Staff expertise from environmental planners and specialists who provide targeted knowledge;
- A Development Cost Charges (DCC) bylaw to facilitate funding for the acquisition of BC GIN lands and long-term preservation.

Developing and implementing the BCS requires ensuring the public and council are fully informed on objectives, and this has built momentum for conservation priorities. Targeting both council and the public has fostered a better understanding of the BCS's importance and its linkage to climate action and livability.

Despite progress with its BCS, the City has faced several challenges:

- Shifting political priorities have affected long-term commitment to natural area conservation;
- The increasing cost of land acquisitions for conservation has strained budgets, even with DCC mechanisms in place, in part because land values have outstripped the values embedded in DCC calculations;
- Despite hiring additional staff, capacity for updates and active management remains constrained;
- Balancing development demands with conservation goals often requires extensive outreach to address misconceptions about the cost and value of natural area preservation.

While the City faces increasing pressures to develop in GIN areas due to rising land values and the provincial housing statutes, having identified areas of high value for climate resilience using science-based mapping means staff can make a stronger case for GIN retention.

The BCS has demonstrated significant achievements in policy integration, biodiversity conservation, and public awareness. The development of tools such as biodiversity design guidelines and the DCC bylaw for BC GIN acquisitions has been instrumental in addressing challenges. For example, applying zoning regulations and setbacks in accordance with the BCS has contributed to the preservation of riparian and sensitive habitats. However, ongoing political support, innovative funding models, and strategic updates are essential to maintain momentum and achieve long-term conservation goals. For more information, go to the City of Surrey's Biodiversity Conservation Strategy.

BCS example 2: District of Saanich BCS and Resilient Saanich Program

In 2024, the District of Saanich's Mayor and Council endorsed an Environmental Policy Framework (EPF) and Biodiversity Conservation Strategy (BCS) [185], creating a more coordinated and comprehensive approach to the policies, programs, and projects that will maintain and enhance biodiversity in Saanich. The EPF outlines eight guiding principles and two goals to assist Saanich staff in aligning environmental policies and programs to support a sustainable and resilient Saanich. The EPF was prepared by Saanich

[185] Diamond Head Consulting, 2024, District of Saanich Biodiversity Conservation Strategy, report prepared for District of Saanich, 116 pp, https://www.saanich.ca/EN/main/community/natural-environment/resilient-saanich-environmental-policy-framework.html, accessed 21 April 2026.

staff and the Resilient Saanich Technical Committee (RSTC), which has members representing several environmental professions and First Nations. Figure 8 shows how Saanich's policies are integrated to support its over-arching 'Resilient Saanich' program. [186]

The Saanich BCS features seven theme areas and more than 130 actions that will be implemented incrementally over the next ten years, with a focus on the stewardship of private and public lands and park management and restoration in the first three years. The effectiveness of these actions will be monitored and reported back to Council.

Figure 8. How District of Saanich's Biodiversity Conservation Strategy integrates into other policies

Climate strategies

A key goal of a climate strategy and climate action commitments in local government policy is to develop community resilience to climate change by protecting the natural environment. Some local governments choose to develop stand-alone climate strategies, while others embed climate actions within an overall strategic plan or OCP. The latter approach is arguably more aspirational, since an OCP itself does not carry any legal requirement for the local government to proceed with any works or projects in the OCP. Stand-alone strategies, on the other hand, imply a commitment to meet climate-specific visions and typically lay out goals, targets, actions, implementation plans, and monitoring and reporting frameworks.

Developing an effective climate strategy first requires understanding existing conditions, risks, and vulnerabilities. Local governments can draw on regional, provincial, and federal resources (described in sections 3.2.5 and 3.3.1 to better understand climate risks and vulnerabilities that may apply to their

[186] District of Saanich website, "Biodiversity Conservation Strategy", https://www.saanich.ca/assets/Community/Documents/Environment/RSTC/240625%20-%20District%20of%20Saanich%20-%20BCS%20-%20FINAL.pdf , accessed 21 April 2026.

area. For example, the Capital Regional District's (CRD) Climate Projections for the Capital Region [187] presents the CRD's climate projections to 2100. Staff can use this information to identify realistic priorities for climate adaptation. Common ecological vulnerabilities in the project area due to climate change include:

- loss of biodiversity
- ecosystem stress and disease
- loss of species of cultural value
- health impacts from severe heat and wildfire smoke
- inundation of buildings and infrastructure from sea level rise
- coastal erosion and land erosion
- wildland-urban interface fire risk

Local governments that are in the early stages of exploring climate action strategies may face challenges in gaining approvals due to lack of understanding and perceived trade-offs and financial costs. To assist with this, Municipal Climate Services Collaborative developed a resource to guide conversations between staff and decision-makers on the need to act on climate change locally, and specifically to adapt to the impacts of a changing climate. The guide includes case studies of Canadian communities that have successfully advanced support and implementation of climate adaptation actions. For more information, go to the Guide for Local Government Staff on Climate Adaptation.[188]

Local governments vary greatly in size and capacity across the project area, and climate strategies need to be scaled in ways that make sense for each community. The following are some climate adaptation strategies and policy documents from across the project area that target nature-based solutions as climate adaptation measures:

- Comox Valley Regional District Rural Areas Community Climate Action Plan
- Cowichan Valley Regional District Climate Change Adaptation Strategy & Implementation Plan
- qathet Regional District Strategic Corporate GHG Emissions Pathway Plan – 2020 to 2022
- Municipality of North Cowichan Official Community Plan Bylaw
- City of Courtenay OCP Bylaw
- Village of Cumberland Climate Action Plan
- Port Alberni Together for Climate
- City of Colwood Climate Action Plan
- District of Saanich Climate Plan

[187] Curry, C., Farmer, I., 2024, Climate Projections for the Capital Region, report prepared for the CRD, 71 pp., https://www.pacificclimate.org/ sites/default/files/publications/ClimateProjectionsCapitalRegion2024.pdf, accessed 9 Feb 2025.

[188] Environment and Climate Change Canada, 2020, "Talking it Through: A Guide for Local Government Staff on Climate Adaptation', Watershed Management Strategies https://data.fcm.ca/documents/resources/MCIP/talking-it-through-discussion-guide.pdf, accessed 31 Jan 2025.

Watershed Management Strategies

Management of essential values that span jurisdictional boundaries, such as water, warrants a wholistic approach of coordination across governments and organizations. This is particularly true in drier regions like the CDFmm that are defined by summer drought conditions, and where rapid population growth is placing increasing demands on water supplies and aquatic ecosystems.

Regional districts can work with municipalities, First Nations, eNGOs, and regional organizations to develop watershed management strategies (WMS) that set out guiding principles, actions, implementation plans, and monitoring and reporting plans. One approach is development of a Water Sustainability Plan through a water management table, a legal tool introduced under the WSA and described in section 3.3.6.

A WMS should prioritize wetland and riparian area protection, which are often threatened by development. Local governments can leverage the provincial RAPR (see section 3.3.5) and WSA (see section 3.3.6) to enable protections through EDPAs. A current challenge is a lack of reliable maps of wetlands that are also at a fine enough scale for land use planning.

WMS example: Okanagan Sustainable Water Strategy Action Plan

Working with all levels of government including First Nations, and organizations having interests in land and water management, in 2019 the Okanagan Water Stewardship Council released its Okanagan Sustainable Water Strategy: Action Plan 2.0.[189] This strategy includes 50 actions designed to protect water at its source, plan for flooding and drought, manage water demand, collect and share data, and collaborate and build partnerships. Developing it involved more than 70 people who provided input. The result is a collaboratively developed, modern, comprehensive strategy intended to safeguard clean and healthy water in the Okanagan into the future. The expectation is that all parties involved in its development and in the community are responsible for implementing the action plan, with leadership from the Okanagan Basin Water Board and its Council.

Many of the critical actions set out in the strategy require collaboration and strong partnerships, especially with Indigenous peoples, and call for good water governance, informed decision making, and adequate funding and resources. The actions also require monitoring and follow-up to ensure success and achieve the intent of the strategy.

3.4.7 Zoning bylaws

Zoning allows local governments to regulate the uses a landowner can put on a piece of land and how much of that use (i.e., density) is allowed on a specific part of the land. Whether on a municipal, regional district, or watershed level, zoning is the primary means of preventing development in locations where it can harm sensitive ecosystems and ecosystem connectivity and for directing development towards more appropriate locations. The ability to regulate land use also includes the ability to prohibit a use within a zone—except that a local government cannot use zoning powers to prohibit or restrict the use of land for a farm business on land within the provincial Agricultural Land Reserve without receiving the approval of the Minister responsible for agriculture, or on land registered under the *Private Managed Forest Land Act* as private managed forest land.

[189] Okanagan Basin Water Board website, "Okanagan Sustainable Water Strategy", https://obwb.ca/library/okanagan-sustainable-water-strategy/ , accessed 31 Jan 2025.

Zoning for conservation is a straightforward way to direct development away from carbon storing ecosystems and areas of biodiversity value and connectivity. Once mapping has identified such locations, zoning can be used to create larger lot sizes and setbacks to maintain undeveloped landscape-level corridors (provided the new SSMUH density requirements are not contravened). Zoning for conservation can be politically unpopular, but when used with other tools that integrate with policies set out in OCPs, such as the nested approach described in section 3.1, it is a simple way to prevent development in ESAs.[190] Zoning bylaws can support the ecological function of connectivity networks by ensuring land use activities do not impair biodiversity.[191] Similarly, zoning can be used to minimize development on lands of high ecological value that are also inappropriate for developing due to risks such as floodplains and wetlands. Zoning can ensure that homes will not be built in high-risk areas, while preserving land that provides significant ecosystem benefits. [192] For more discussion on conservation zoning, see the Green Bylaws Toolkit, section 8.

Zoning example: Bowen Island Municipality Conservation Development policy

The Bowen Island Municipality has a Conservation Development policy having the objective of ensuring all rezoning applications that increase density outside of their village core incorporate Conservation Development principles with the goal that a minimum of 50 percent of the total land subject to the rezoning application is protected from further development. The policy defines Conservation Development as land development that seeks to protect biodiversity, farmland, ecosystem services, ecological corridors, scenic landscapes, and historic and cultural resources, as well as help maintain the character of rural communities. This is achieved by identifying and permanently protecting ESAs and other green space. In this way, development is then built around the protected areas. The objectives of this policy are integrated with those of the OCP.

3.4.8 Environmental Development Permit Areas

Under the *Local Government Act* s. 488 (1)(a), local governments can designate environmental development permit areas (EDPAs) for the protection of the natural environment, its ecosystems, and biodiversity. EDPAs provide local governments with an operational tool for managing development on a site-specific basis where the characteristics or context of a development site call for more finely-tuned standards than zoning bylaws might provide.

Local governments use EDPAs in various forms, depending on their OCP objectives and features they wish to protect. For example, local governments have established Streamside DPAs (e.g., District of Saanich Streamside DPA), aquatic ecosystem DPAs and sensitive terrestrial DPAs (e.g., Regional District of Central Okanagan), and natural EDPAs (e.g., City of Abbotsford).

A development permit for an EDPA can:

- specify areas of land that must remain free of development, except in accordance with any conditions contained in the permit;
- specify natural features or areas to be preserved, protected, restored, or enhanced.

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[190] Curran et al, s. 8, pp. 79-81.

[191] Green Bylaws Toolkit 101, webinar 2021

[192] Taskforce for Climate & Housing, 2024, Blueprint for More and Better Housing, https://housingandclimate.ca/wp-content/uploads/2024/03/Blueprint-for-More-and-Better-Housing-Mar-2024-EN.pdf , accessed 4 Sept 2024.

- require dedication of natural watercourses and their setbacks;
- require construction of works to preserve, protect, restore, or enhance natural watercourses or other specified natural features of the environment;
- specify protection measures, including planting or retaining vegetation or trees to conserve, protect, restore or enhance fish habitat or riparian areas, control drainage, control erosion, or protect banks;
- impose conditions on the sequence and timing of construction.

EDPAs can help ensure that development decisions support the broader objectives stated in OCPs. Similarly, Councils must be able to demonstrate that they considered a development permit application in the context of their OCP. [193] EDPAs should not be considered the primary land-use tool to protect sensitive ecosystems; rather, they fit within the broader land use policy hierarchy of RGSs, OCPs, and zoning bylaws (Figure 9).

Figure 9. Where EDPAs fit within the land use policy context [194]

A local government must designate the extent of its EDPAs in its OCP, along with the special conditions or objectives that justify the designation, and the zoning bylaw must also contain guidelines for addressing the special conditions or objectives of the EDPA. [195]

EDPA guidelines can include requirements to protect specific elements of designated ecosystems—for example, the habitat of a federally-listed species at risk, a conservation corridor, or nest of a raptor. These requirements may designate buffer zones or a zone of risk to protect the site from disturbance during development. Historically, EDPAs have only applied to specific designated areas, but they are increasingly "blanketed" across much of a local government's land-base, as set out in its OCP.

The 2023 *Housing Statutes (Residential Development) Amendment Act* has not altered the authority of local governments to establish an EDPA that varies or supplements a zoning bylaw, but it cannot vary the land use or the density permitted by the bylaw.

To be supported by the community and landowners, the EDPA conditions need to concur with the OCP and conservation strategies (if any). If this concurrence does not exist, EDPAs are vulnerable to public critiques based on what landowners think they can do on their own property, as well as perceived errors or misinterpretations of any maps of which EDPAs are based. Mapping areas of ecological value using high quality and recent information can facilitate EDPA integrity and improve landowner compliance.

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[193] Curran et al, s. 9.9.1, pg. 125.

[194] City of Courtenay, Schedule A to Bylaw no. 3075, Development Permit Areas Guidelines, https://www.courtenay.ca/Development-services/planning-and-land-use/zoning-and-policy/official-community-plan, accessed 8 April 2026.

[195] Curran et al, s. 9, pg. 96.

Because they are site-specific, EDPAs are time-consuming for staff to implement. Since they affect how people can use land, EDPAs often face legal challenges. EDPAs can be an effective way to protect ESAs on individual properties, but because they are not a regulatory tool, they work best when there are enforcement provisions in regulatory bylaws that enable ticketing.

EDPA example 1: District Municipality of West Vancouver

The District of West Vancouver of has three types of Natural Environment and Hazard Development Permit Areas [196] and associated guidelines for development to protect and enhance the natural environment and minimize risk to private property from climate hazards. This includes an EDPA to protect watercourses and their riparian habitat, a Wildfire Hazard DPA to protect new buildings and reduce the risk of wildfire spread, and a Foreshore DPA to minimize risk to people and property from coastal hazards, while preserving and enhancing the intertidal habitat of the foreshore. Each DPA is subject to clear guidelines set out in the OCP Schedule ii.[197] These DPAs have been updated to reflect the 2023 provincial SSMUH requirements.

West Vancouver's EDPA works toward the principle of no net loss to balance unavoidable habitat losses with habitat replacement on a project-by-project basis. The Wildfire Hazard DPA incorporates FireSmart principles and includes all properties within 100 m of a forested area, or approximately 50% of land in the District. The Foreshore DPA requires compliance with guidelines for any development, including tree work, within 15 m of the natural boundary (high tide mark) of the ocean.

EDPA example 2: City of Courtenay EDPA

In 2022, the City of Courtenay established an EDPA that is linked to mapping of sensitive aquatic and terrestrial ecosystems. The EPDA identifies areas that require a permit before construction or alteration of land can occur, with the objective of *"Protecting ecosystems and features that provide habitat for aquatic and terrestrial species, protect biodiversity and provide ecosystem services when conducting development near Environmentally Sensitive Areas"* [198].

The mapping that supports the EDPA was developed through the city's Urban Forest Strategy, which mapped tree cover through analysis of ecosystem connectivity, Sensitive Ecosystem Inventory mapping, and known occurrences of raptor and heron nests. The EDPA presents guidelines that a developer and their appointed QEP must following when considering the impacts of their project. The City of Courtenay found that the absence of provincial guidelines on what is and is not a sensitive ecosystem or a significant connectivity corridor has led to questions during review of permit applications, and this has led to an over-dependence on the professional reliance model. It would be beneficial if the province created educational guides for the public that show images of endangered ecosystems and species they

[196] District of West Vancouver website, "Natural Environment and Hazard Development Permit Areas", https://westvancouver.ca/climate-environment/natural-environment-and-hazard-development-permit-areas, accessed March 2025.

[197] District of West Vancouver, Official Community Plan Schedule ii Area-Specific Policies & Guidelines, https://westvancouver.ca/sites/default/files/media/documents/Schedule%20ii%20Area-Specific%20Policies%20%26%20Guidelines_3.pdf, accessed March 2025.

[198] City of Courtenay, 2022, Official Community Plan DP4 Environmental Zoning, https://www.courtenay.ca/dpa, accessed April 2026.

could expect to find on their land. It would be helpful for citizens to have an easily accessible tool to aid them with species and ecosystem identification before applying for an EDP.

3.4.9 What to look for from QEPs

Land use planning and development must be based on sound ecological information to effectively protect the habitats necessary to maintain biodiversity. The identification and assessment of a site's ecological attributes are essential as a first step in all land use planning processes. These should be identified early in the planning process to help plan for their protection.

Some local governments have enacted a bylaw to establish a Development Approval Information Area (DAIA) over their entire jurisdiction. This bylaw enables them, during the development permit process, to require developers to hire a QEP to conduct a biological site inventory in accordance with guidelines before any land disturbance takes place, and to require that any information collected is provided. A DAIA is a tool that local governments can use to acquire site information. There are currently no provincial standards for urban biological site inventories in BC, but there are guidelines that local governments should require from developers and their QEPs that are discussed below.

A biological inventory involves a preliminary site survey, which may lead to a detailed site inventory and report. QEPs who undertake such work are required under the *Professional Governance Act* [199] to have relevant skills, qualifications, and expertise to do such work, but local government staff may not have the background or time to evaluate the quality of such reports.

Comprehensive information regarding requirements for preliminary and detailed site inventories is provided in Develop with Care Appendix B Bio-inventory Terms of Reference.[200] While somewhat dated (there have been several regulatory changes since it was written in 2014), it details what should be included for both inventory types, and provides example checklists for both inventory types. Staff should refer to it as a cross-check to ensure QEP reports meet these standards.

In general, the following are considerations that staff should look for in site inventories and reports:

- Ensure the QEP can demonstrate that they have expertise in the ecological elements being observed, such as riparian ecosystems, plant and animal identification, or land cover mapping. In some cases, such as riparian areas, specialized training and certification are mandatory.
- Ensure the QEP has ability to identify species at risk and habitat that might occur or that were observed in the study area.
- Require the QEP to submit any observations of provincially or federally listed species to the BC Conservation Data Centre. The data will be kept confidential by the CDC if that is requested.
- Ensure the QEP visits the site at the appropriate times of year necessary to detect suspected or potential species at risk or species that may be protected under provincial or federal legislation.
- Ensure the QEP carries out full ground inventories and provides a map of ESAs observed at the site rather than just relying on previously mapped SEI data.

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[199] *Professional Governance Act*, SBC 2018, CHAPTER 47, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/18047, accessed 1 Feb 2025.

[200] Develop With Care, 2014, Environmental Guidelines for Urban and Rural Land Development in British Columbia, Appendix B: Bio-inventory Terms of Reference, in Appendices, https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/best-management-practices/develop-with-care/dwc-appendices-a-f.pdf , accessed 30 Jan 2025.

- Ensure the QEP follows established Resources Information Standards Committee (RISC) standards [201] for inventorying and mapping and provides evidence that they have done so (e.g., describes standards followed, provides metadata).
- Require that QEPs make use of applicable best management practices, for example:
    - Environmental Best Practices Guide for Wildlife in Canada
    - Raptor Best Management Practices
    - Develop with Care

3.4.10 Tree protection bylaws

A tree protection bylaw is an especially important tool for coastal communities and those where tree cover is a central part of the green infrastructure. Municipalities have broad jurisdiction to regulate, prohibit, and impose requirements through a tree protection bylaw enabled under Community Charter ss.8(3)(c), 15 & 50. This authority does not apply, however, to land and trees governed by a tree farm license, permit, or tenure under forestry legislation (e.g., PMFLA); or tree cutting that a utility undertakes on its land for purposes of safety or operating the utility. 202 Under LGA s. 500, Regional Districts have the authority to establish a tree cutting permit bylaw in relation to areas affected by flooding or other hazards.

The definition of "protected tree" varies across local governments, as do the criteria used to define them. Some criteria include height, diameter at breast height, significant trees, wildlife trees, species, replacement trees, covenanted trees, or trees in a certain area. For more examples of criteria and definitions currently used in tree bylaws in BC, see Tree Protection Bylaws in British Columbia (McLean 2021).[203]

Provisions in tree protection bylaws typically list different tree species and types of trees (e.g., wildlife trees, trees in riparian corridors, trees protected by a conservation covenant, trees of a specific diameter at breast height or larger) that require a permit to be cut or removed. Prohibitions may be placed on cutting trees in riparian corridors, ESAs, on floodplains, or in steep-slope areas. The bylaw may also prohibit damaging trees, for example by placing a toxic substance on the tree or by placing impervious surfaces within a minimum distance from the drip line.

If a tree permit is issued, the bylaw can enable imposing conditions in the permit such as specifying trees to be cut or removed, supervision of a certified arborist, planting and species of replacement trees, and/or use of specific forms of tree protection.[204] As more urban forest assessments and strategies are developed, a replacement ratio of 2:1 or 3:1 is becoming a common provision for trees cut under permit. With the climate-driven increase in storm events and tree stress, concern for hazardous trees has also increased. This can be addressed through policy that stipulates how trees should be assessed and managed, to help avert unnecessary cutting.

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[201] BC Government website, "Inventory Standards – RISC Standards & Background Policy", https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/inventory-standards, accessed March 2025.

[202] Curran et al, 2021, s. 10.5, pg. 130.

[203] McLean, A, 2021.

[204] Curran et al, s. 15.6.2, pg. 170.

To strengthen bylaw compliance and willingness to protect trees, municipalities can consider offering incentives. The District of Saanich's Significant Tree Program [205] offers private property owners with a "significant tree" on their property the option to apply for grants to assist with a portion of tree maintenance costs, including hazard abatement (provided the tree can be retained); pruning or bracing; or tree health care. The grant may cover up to 50% of these costs.

When well-written and enforced, with limited discretion in interpretation and application, a tree protection bylaw can yield many benefits from protecting specific rare trees or specific areas, to helping regenerate an urban forest and long-term rehabilitation of watersheds or landscapes. It can be used to set more stringent standards for sensitive ecosystems, and offer the opportunity for public education on importance of trees and native vegetation. [206] With accurate mapping information, staff can identify neighbourhoods or even specific trees that offer important environmental values such as habitat connectivity or wildlife trees.

3.4.11 Riparian protection

As described in section 3.3.5, RAPR directs local governments to protect riparian areas during residential, commercial and industrial development, through the use of their authority outlined in Part 14 of the *Local Government Act* (LGA). The RAPR establishes a science-based process that local governments can apply to achieve riparian area conservation. Although RAPR focusses on riparian fish habitat, local governments also have authority to use their powers under the LGA to protect other riparian areas for other values, such as biodiversity or connectivity.

Local governments have three general options for implementing RAPR:

1. Set out riparian assessment areas for a stream (Streamside DPAs), following RAPR Section 8.
2. Establish a rules-based scheme or an approvals-based scheme that prohibits a development from proceeding unless certain conditions are met, following direction of RAPR Section 4.
3. Establish a regime that provides a level of protection that meets or exceeds RAPR. Some municipalities have adopted this approach.

Local governments should include a policy statement in their OCP to indicate alignment with RAPR, or if the intention is to exceed RAPR guidelines then this should be explicitly stated. Ideally, policy should indicate that it applies to mapped water features, and to those that have been identified as such by a QEP. The policy and mapping should be linked to a development permit area to enable planners to take action during development application reviews.

Table 4 lists the various legal tools available to local governments to protect watercourses and riparian areas from disturbance. The options chosen will depend on a local government's goals, the nature of information it has available regarding streams in its jurisdiction, and in part on staff capacity.

Table 4. Local government legislative tools for implementing RAPR [207]

[205] District of Saanich website, "Significant Trees in Saanich", https://www.saanich.ca/EN/main/community/natural-environment/trees/significant-tree-program.html

[206] Curran et al, s. 10.2, pg. 127.

[207] Ministry of Forests, Lands, and Natural Resource Operations, 2016, Riparian Areas Guidebook for Local Governments, 33 pp., https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rar-guidebook-local-government_web_final_aug_2016.pdf, accessed 3 Feb 2025.

Tools	Legislative authority
OCP	*Local Government Act*, Part 14
Development Permit Areas	*Local Government Act*, Part 14
Zoning bylaws	*Local Government Act*, Part 14, *Land Title Act*, Part 7
Development approval and information bylaws	*Local Government Act*, Part 14
Covenants	*Land Title Act*
Other regulatory bylaws affecting land use	*Local Government Act*, Part 9, and Community Charter

Whichever tools a local government chooses, there are three elements that their regulatory process needs to provide:

- definitions of streams and riparian areas that are consistent with RAPR;
- a means of triggering a regulatory action if a development activity is proposed to occur in a riparian assessment area; and
- a means of requiring a QEP assessment report that complies with the RAPR and its assessment methods.

The RAPR has the expectation that local governments' development approval mechanism, using tools like rezoning or subdivision approvals, development permits, building/variance permits, will be subject to the conditions outlined in the RAPR assessment report. It requires delineation and protection of the Streamside Protection and Enhancement Area (SPEA) and incorporation of all applicable measures in the QEP assessment report.

Non-legislative tools available to local governments for the protection and conservation of riparian areas include information and education about stream stewardship, watershed or stormwater management plans, parkland acquisition, tax incentives, and landowner agreements such as covenants.

Staff concerns regarding the RAPR relate to deficiencies with the local government's choice of an implementation tool. For instance, most local governments that are exceeding the RAPR have used EDPAs, though at least one local government (e.g., City of Abbotsford) has an enforceable Streamside Protection Bylaw with the purpose of protecting SPEAs.

From a biodiversity perspective, a better ecological outcome could be achieved for a riparian features and watersheds if local governments applied riparian protection standards to all watercourses, not just those that provide fish habitat, and to hire staff or contractors that have ecological expertise to help them exceed the basic requirements of the RAPR. At minimum, the RAPR is an opportunity to map watercourses and better understand the riparian values in each local jurisdiction.[208] Utilizing conditions under the *Water Sustainability Act* (see section 3.3.6) is another means of protecting non fish-bearing watercourses.

Riparian protection example: City of Courtenay EDPA for aquatic ecosystems

In accordance with the LGA, the City of Courtenay established an EDPA designation that is intended to protect ecosystems and features that provide habitat for aquatic and terrestrial species, preserve biodiversity, and provide ecosystem services, when development is conducted near ESAs. The EDPA

[208] Curran et al, s. 15.1, pg. 162.

applies to all privately-owned land within the City of Courtenay unless subject to a defined exemption.

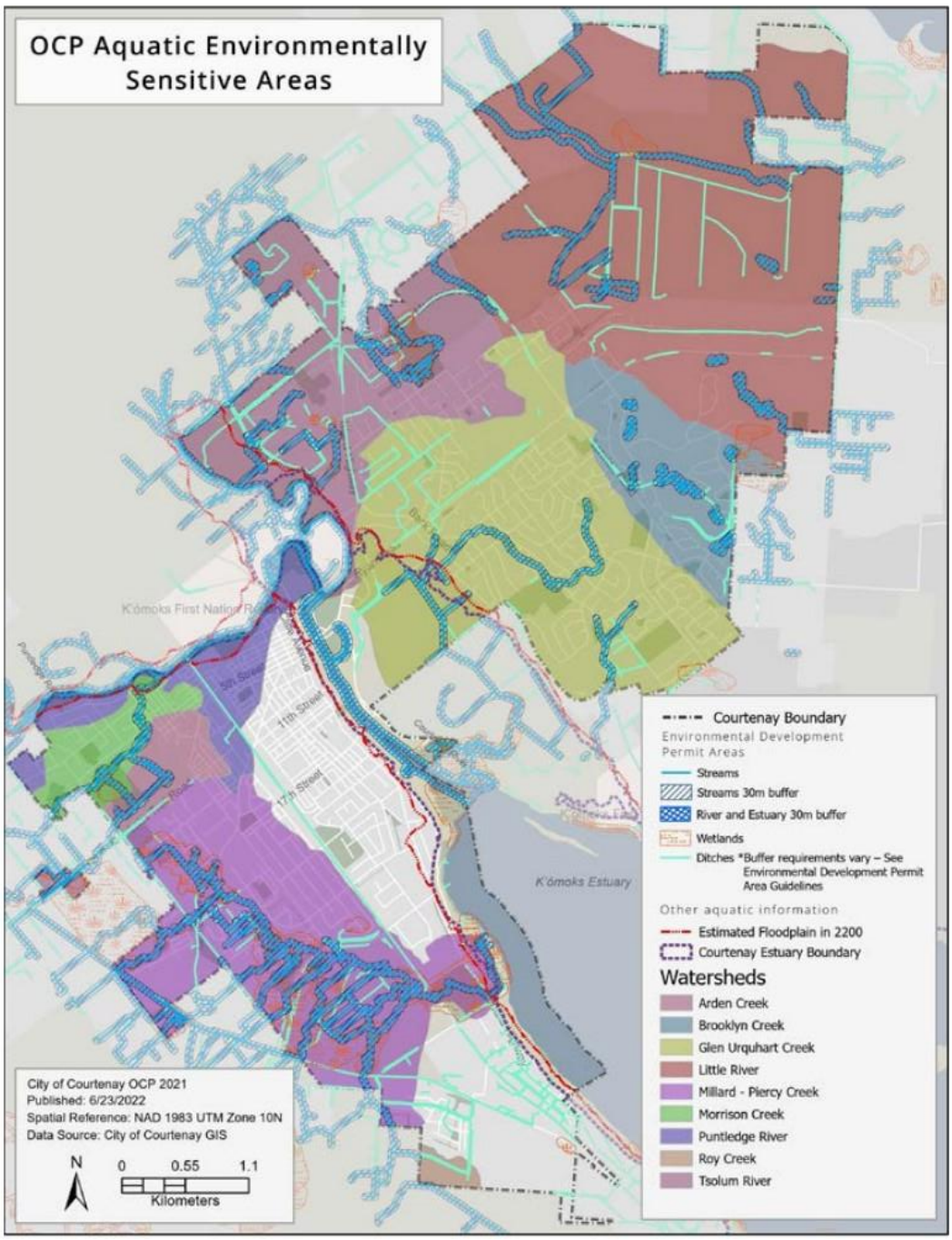
Courtenay's ESAs include, whether mapped or not, freshwater aquatic ecosystems, along with estuary and marine shorelines, terrestrial ecosystems, ecosystem connectivity areas, raptor and heron nests, and at-risk species and ecological communities including those listed under SARA and those provincially designated as red-listed or blue-listed. The Courtenay aquatic ESA map is shown in **Error! Reference source not found.**.

The EDPA defines aquatic ecosystems as those natural systems that are either permanently or periodically under water. Water may be running, as in a river, stream or springs; or still, as in lakes and wetlands, whether connected by surface flow to fish-bearing waters or not. This includes their riparian areas, specifically lands within 30 m of the natural boundary of such ecosystems. [209]
A stated objective for the aquatic ESA is to meet and generally exceed RAPR requirements. The terrestrial ESA type also includes riparian areas and wetlands.

The objectives for the EDPA are to:

1. Maintain ecosystem connectivity.
2. Protect areas of high biodiversity and ecological sensitivity within Courtenay including ground and surface water, shorelines, forests, wildlife and important wildlife habitats, ecosystem features and functions, and rare and endangered ecosystems, ecological communities and species.
3. Restore and enhance previously degraded ecosystems.
4. Ensure that ecosystem protection and enhancement values are elevated and prioritized in the development design and review process, and specify where and how lands are developed around Environmentally Sensitive Areas.
5. Protect and enhance water quality and prevent contamination of water from land use and development activities.
6. Meet and generally exceed the Riparian Areas Protection Regulation (RAPR) requirements.
7. Provide comprehensive environmental protection guidelines that are scientifically rigorous, clear, and transparent to development applicants and the greater community

[209] City of Courtenay, Development Permit Areas Guidelines. https://prospero.courtenay.ca/TempestLive/ourcity/Prospero/FileDownload.aspx?fileId=4364EA44-189F-43B2-8BB9-95E9B72B3F3D&folderId=96429C220928091953977134


OCP Aquatic Environmentally Sensitive Areas
K'ómoks First Nation
5th Street
11th Street
17th Street
K'ómoks Estuary
Courtenay Boundary
Environmental Development Permit Areas
Streams
Streams 30m buffer
River and Estuary 30m buffer
Wetlands
Ditches *Buffer requirements vary – See Environmental Development Permit Area Guidelines
Other aquatic information
Estimated Floodplain in 2200
Courtenay Estuary Boundary
Watersheds
Arden Creek
Brooklyn Creek
Glen Urquhart Creek
Little River
Millard - Piercy Creek
Morrison Creek
Puntledge River
Roy Creek
Tsolum River
City of Courtenay OCP 2021
Published: 6/23/2022
Spatial Reference: NAD 1983 UTM Zone 10N
Data Source: City of Courtenay GIS
N
0
0.55
1.1
Kilometers

3.4.12 Local government parkland acquisition fees and tools

Acquiring parkland is an important strategy for protecting ESAs and high carbon ecosystems, and for providing a community with opportunities to appreciate the natural environment. OCPs often establish land acquisition policies and Parks or Lands Acquisition Funds in relation to parks master plans. Parkland can be acquired using funds from Development Cost Charges (DCCs), donated through Community Amenity Contributions (CACs), the newer Amenity Cost Contribution (ACC), and Density Bonuses. Lands having high conservation value can also be down-zoned in density through density transfer mechanisms. These tools are described below, and more information is available from the provincial Parkland Acquisition Best Practices [210] guide (although note that it was published in 2006 and might not reflect current market and development pressures).

Development Cost Charges

Under the LGA 566(2)(b)(i), municipalities and regional districts have authority to levy DCCs on new development to pay for new or expanded infrastructure resulting from growth such as sewer, water, drainage, parks, roads, solid waste and recycling facilities, fire protection facilities, and police facilities necessary to adequately service the demands of that new development [211] (known as Development Cost Levies in the City of Vancouver).

DCCs can be enabled through adoption of a DCC bylaw specific to acquisition of ESAs or green infrastructure can be used to bolster a parkland acquisition budget. Funds from DCCs must be deposited to reserve funds for the purpose of acquisition of parkland.

Given limited land acquisition budgets and the growing gap between land values and DCC estimates, DCCs may not be adequate to meet local

Using DCCs for parkland acquisition: Metro Vancouver

Acquisition of parks in Metro Vancouver from 1969 to 1993 was funded through a tax levy collected within departmental budgets, borrowing and provincial government contributions. In 1993 a Parks Acquisition Fund was established and continues with funding from property taxes.

In 2019, Metro Vancouver produced their Climate 2050 Strategic Framework, which indicated the intent to produce roadmaps for emissions sources and routes of reductions. This led to the Nature and Ecosystems 2050 Roadmap, which includes a goal to protect 50% of the region for nature by 2050, in part to help attain Metro Vancouver's target to be carbon neutral by 2050.

In response to its strategic direction to purchase more land for parks in the face of rising land prices, Metro Van brought its new parkland acquisition DCC bylaw into effect in January 2025 for new residential and non-residential developments to pay for new parks for future occupants. This will supplement the Parks Acquisition Fund. These funds will be collected by the municipalities at the subdivision stage or building permit stage.

For more information, see MetroVan's Regional Parkland Acquisition Development Cost Charge website and Bylaw to Impose Development Cost Charges for the Provision of Regional Park Land.

[210] BC Government, no date, Parkland Acquisition Best Practices Guide, 18 pp, available at: https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/local-governments/finance/parkland_acquisition_best_practices_guide.pdf.

[211] BC Government, Development Cost Charges website, https://www2.gov.bc.ca/gov/content/governments/local-governments/finance/local-government-development-financing/development-cost-charges, accessed March 2025.

government conservation goals. In these cases, CACs, or the newer ACCs, and Density Bonusing may fill these funding gaps.

Community Amenity Contributions

CACs are voluntary contributions that developers contribute to a local government as part of a rezoning process. CACs apply only to developments that are being rezoned. CACs have been used to help a local government address the costs of growth-related community amenities, such as affordable housing, greenspace, cultural amenities, and emergency services. Councils may choose to accept in-kind community amenities that are tangible capital assets, such as parkland. CACs can improve the efficiency of local government expenditures by acquiring green space with little or no direct cash outlay. They can also facilitate site design that is ecologically sensitive and shifts some greenspace conservation costs onto the development industry.

CACs are not without controversy. Many believe they allow developers to purchase additional density that overrides what a community has agreed to in its OCP. Given current property values and building costs, the amount of additional density needed to generate enough of a bonus to purchase or secure land can be significant. Other challenges include unfavorable real estate markets; poor lines of communication between local government planners and developers; establishing an acceptable exchange value; protracted negotiations and uncertainty in the approval process; and political resistance to higher density.[212] The recent introduction by the province of the ACC may help to mitigate these challenges.

Amenity Cost Charges

The *Housing Statutes (Residential Development) Amendment Act* 2023 established the ACC, formalizing a development finance tool that, through CACs, has historically been voluntary. An ACC, which is enabled through a bylaw, allows local governments to collect funds for amenities from new developments that result in increased population. Some local governments are exploring the use of this tool to buy parkland. For example, the District of North Vancouver is looking at replacing CACs negotiated at the time of rezoning with ACCs payable at the time of building permit or subdivision.

ACCs bring some important differences:[213]

- The purposes for which charges may be imposed are not statutorily restricted; any amenity project is eligible, and the Act defines the term quite loosely, making ACCs an option to fund parkland acquisition.
- The ACC bylaw must, however, identify the specific amenity projects that will be funded with ACC revenues, unlike DCC bylaws which deal only with broad classes of projects and thereby offer greater flexibility in expenditures of DCC funds.
- The legislation requires local government contributions to project costs, to recognize any benefit to existing populations and to provide explicit local government contributions to assist with the

[212] Taves, L., 2002, Density Bonus as a Tool for Green Space Conservation, MSc Thesis, Simon Fraser University.

[213] Buholzer, B, 2024. "Hello ACCs – Good-bye CACs?", article in Planning West Spring 2024, https://www.pibc.bc.ca/sites/default/files/internal_pages_pdfs/planning-west/PIBC-PW-Spring2024-WEB-FINAL.pdf, accessed March 2025.

cost of amenities exclusively benefiting new populations, rather than enabling these policy-based requirements to be applied (via the Amenity Cost Charges (ACC) Best Practices Guide) by government officials reviewing DCC bylaw for provincial approval.

- The government is given significant regulation-making powers that could be used to cap ACC levels and deal in detail with how ACC-funded project costs are calculated.
- No Inspector of Municipalities approval is required for an ACC bylaw.

Other than these differences, the new ACC regime closely resembles the existing DCC regime.

Density Bonus

A Density Bonus is the additional density that can be built in exchange for an amenity contribution. The developer benefits from the additional floor space or units, and the community benefits from obtaining a public amenity, such as park land. Density Bonus provisions may be included in zoning bylaws, or they can be part of OCP policies that are negotiable on a case-by-case basis. [214] Local governments can use Density Bonuses with other techniques, such as clustering development and conservation covenants, to protect ESAs or other green infrastructure features.

Under the *Local Government Act*, local governments can require landowners to dedicate up to 5% of the land being subdivided for parks, but many developers are willing to work with local governments to craft unique responses to site-specific ecosystem conditions and development costs.

Amenity zoning can, however, be a useful tool for protecting lands for conservation and carbon storage. Medium to small communities have used the density bonus and rezoning for subdividing large parcels to achieve the protection of parkland along with residential clustering.

- The rural District of Highlands has used the density bonus since the District adopted its first OCP in 1997. The OCP policy states that public amenities may be offered through rezoning to justify an increase in density. Such amenities must be beneficial to the wider community, as well as the proposed development, and may be offered in recognition of the increased value of land resulting from rezoning. Proposed amenities include, among many others, protection of sensitive high value environmental areas by covenant. [215]
- The Islands Trust OCP for Salt Spring Island includes a policy stating that the protection of ESAs or high biodiversity areas is an eligible community amenity, which could be exchanged for a higher density of development. [216]

Density Transfer

Density transfer is the shifting of allowable development intensity from one site to another. It can be used to protect sites with high ecological value by down-zoning transferring the density of that site from a "donor" site to a "receiver" site that is better suited to higher density, such as an urban core or town centre. Density transfer may be implemented either as a regulatory planning tool or as a voluntary, market-based mechanism, where landowners and developers participate on a willing buyer–willing seller

[214] Curran et al, s. 8.6, pg. 87.

[215] District of Highlands Official Community Plan Bylaw No 277, 2007, https://highlands.bc.ca/DocumentCenter/View/4080/Official-Community-Plan---Schedule-A---Bylaw-277---2021?bidId=,accessed 29 Jan 2025.

[216] Islands Trust Salt Spring Island Local Trust Committee Official Community Plan Bylaw No. 434, 2008, Schedule "A", https://islandstrust.bc.ca/document/salt-spring-island-ocp-bylaw-no-434-2023/, accessed 29 Jan 2025.

basis. When designed in this way, density transfer can function as a form of conservation financing, compensating landowners for foregone development potential while directing growth to more appropriate locations. [217]

Density transfer is a versatile tool that can be used both at high-level planning stages in growth strategies, and at the site level to enable parcel-to-parcel transfers. It offers a solution to averting deforestation or intact ecosystem clearing while supporting the addition of, for example, affordable housing.[218]

More than 18 local governments in the CDF zone of the project area have adopted forms of density transfer (e.g., Bowen Island, White Rock, West Vancouver, Oak Bay, Cumberland, Comox, Campbell River, Denman Island, Gabriola Island). Forms of density transfer currently in use include:

- density reallocation between specified areas
- density exchange between unspecified parcels sites or indicated areas
- density consolidation with land donation
- density reserve

While density transfer can propride important planning and conservation benefits, it is not without controversy. Property owners adjacent to density receiver sites may be unhappy with the increase in density above what was originally allowed. Because real estate values are tied to how much development is allowed on a particular land parcel, downzoning can put downward pressure on a receiver property's value. Under the LGA s. 458, local governments are not required to compensate landowners for any reduction in the value of property that arises from changes to plans and planning bylaws such as zoning; however, the approach may face rancorous opposition. However, market-based density transfer approaches can help mitigate opposition by avoiding uncompensated downzoning and instead relying on voluntary, negotiated transactions that align conservation objectives with landowner and development interests.

Conservation Communities

Conservation communities are a land-use and financing model that enables the protection and restoration of forests, particularly old-growth and high-biodiversity areas, while still accommodating sustainable housing and community development. Rather than relying on public acquisition or charitable donations, this approach embeds conservation directly into municipal planning tools such as Official Community Plans (OCPs) and Regional Growth Strategies (RGSs). Two key mechanisms make this possible: Residential Density Transfer (RDT), which allows development rights to be shifted from ecologically sensitive lands to appropriate urban areas, and Community Land Stewardship (CLS) zoning,

[217] Teo, D, 2022, Use of Density Transfer Policies in the Coastal Douglas-fir Zone, internal report prepared for CDFCP, https://www.cdfcp.ca/wp-content/uploads/2023/04/2022-077_Use-of-Density-Transfer-Policies_Teo.pdf, accessed March 2025

[218] Teo, D, 2022, Use of Density Transfer Policies in the Coastal Douglas-fir Zone, internal report prepared for CDFCP, https://www.cdfcp.ca/wp-content/uploads/2023/04/2022-077_Use-of-Density-Transfer-Policies_Teo.pdf, accessed March 2025.

which clusters light-on-the-land housing on a small portion of a site to finance the long-term protection of the surrounding forest. [219]

For local governments, conservation communities offer a practical, market-based alternative to traditional conservation methods. RDT programs allow municipalities to protect threatened forests by compensating landowners through transferable development rights, while directing growth toward serviced areas and reducing sprawl. CLS zoning complements this by establishing clear regulatory frameworks for conservation-oriented communities, ensuring that 85–95% of a site remains forested and managed for ecological health, carbon sequestration, and fire resilience. These tools can be integrated into OCPs, zoning bylaws, density bonusing policies, or Community Amenity Contribution frameworks, creating new pathways for private-sector funding of conservation without increasing public expenditure (reference).

When adopted together, conservation communities enable municipalities and regional districts to address multiple policy objectives simultaneously: climate change mitigation, biodiversity protection, housing diversity, and community resilience. They support Indigenous co-governance, local stewardship, and nature-based infrastructure, while fostering communities that live within, and actively care for, the ecosystems that sustain them. As demonstrated in British Columbia case studies, conservation communities transform conservation from a regulatory constraint into a durable planning and economic asset for local governments.

Environmental levies

Local governments may need to establish funds to pay for costs associated with climate mitigation and adaptation. One method is through environmental levies. For example, in 2022, the District of West Vancouver established an environmental levy to fund climate change mitigation and adaptation measures. The levy contributes to the Environmental Reserve Fund which is intended for:

a) programs that support the protection of the natural environment;
b) climate change response, mitigation, and adaptation;
c) sustainability and protection of the District of West Vancouver's natural capital assets; and
d) reduction of GHGs both by corporate operations and the community.

Biodiversity mapping can help local governments determine appropriate environmental levies by identifying climate risk areas and those that offer high ecosystem services and potential for nature-based solutions, such as flood mitigation.

3.4.13 Conservation covenants

Even if all regulations and best management practices are followed, damage to ESAs by development activities is not uncommon. Local government can require developers to post a security deposit that the municipality can use for habitat restoration, if damage occurs. Under the *Land Title Act* s.219, a local government may register a conservation covenant on the title that applies to ecologically sensitive land

[219] Makaroff, D. & Morse, D., 2024, How to Finance the Restoration of Old Growth Forests through OCP Policies, Residential Density Transfer and Community Land Stewardship Zoning, Plan Canada, Fall 2024 issue, Canadian Institute of Planners, accessed March 2025.

(either lots or portions of lots) can also help protect ecological integrity by specifying what activities are permitted on the land and the features of the land that must be preserved.

A conservation covenant provides long-term protection on private land, and without the expense of purchasing land. It can be tailored to an individual ecological feature, leaving the rest of the property unrestricted. However, it can be costly to survey the land, develop the covenant, and register it. Also, the reason for the covenant may be rendered ineffective without ongoing monitoring and effective enforcement in place. New property owners may not be aware of or understand the covenant provisions, so ongoing education may be necessary. An effective solution is for a local conservation organization to hold the covenant and assume monitoring function; however, this requires an endowment to cover costs.[220]

3.4.14 Emerging Tools: Grouped Carbon Projects

Grouped or aggregated carbon projects are an emerging tool that can expand access to carbon markets for landowners who would otherwise be excluded due to small parcel size or high transaction costs. An illustrative example is the Pivot Forestry Project developed by Ecotierra in Québec, which aggregates numerous small private forest parcels into a single, large-scale carbon project under the Verified Carbon Standard[221]. By including lands from multiple landowners. rather than relying on a single contiguous property, the project achieves sufficient scale to generate verified carbon credits[222]. This approach reduces upfront implementation barriers for individual landowners, as project development, certification, and monitoring costs are shared across the group, making participation in voluntary carbon markets more feasible [223].

While grouped carbon projects show promise, the field is still evolving, and no single methodology or model has emerged as standard[224]. Landowners and project developers must navigate ongoing uncertainties related to project design, verification, and long-term management, as well as financial and operational commitments over extended crediting periods[225]. Participation may also constrain future land-use decisions, such as timber harvesting, which can reduce short-term revenue[226]. These considerations highlight that, although grouped carbon projects offer opportunities for climate mitigation and rural income diversification, careful design, adaptive management, and ongoing support are essential to ensure both environmental integrity and equitable benefits for participants.incentives

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[220] Curran et al, s. 14.3, pg. 157.

[221] Ecotierra, 2023, Pivot Forestry Project – Québec, Ecotierra Projects, https://www.ecotierra.co/our-projects, accessed January 2026.

[222] Verified Carbon Standard (VCS), 2021, Methodology Requirements for Forest Carbon Projects, Verra, https://verra.org/project/vcs/, accessed January 2026.

[223]Hamilton, K., Bayon, R., Turner, G., 2019, Unlocking Forest Carbon Markets for Smallholders: Aggregation Approaches and Lessons Learned, Forest Trends, https://www.forest-trends.org/publications/unlocking-forest-carbon-markets-for-smallholders/, accessed January 2026.

[224] CIFOR, 2020, Emerging Practices in Aggregated Carbon Projects: Challenges and Opportunities, Center for International Forestry Research, https://www.cifor.org/publications/pdf_files/, accessed January 2026.

[225] Hamilton et al 2019.

[226] Ecotierra, 2023, Pivot Forestry Project – Québec, Ecotierra Projects, https://www.ecotierra.co/our-projects, accessed January 2026.

4 Effective policy provisions

4.1 Overview

In the conversations carried out as research for this project, planners stated that while the importance of environmental values is generally recognized, concepts like biodiversity protection and nature-based solutions are not always well understood, and often apply differently to different staff roles. Planners asked for policy text that was written in language that different types of planners can use—from long-range policy planners to those who are responsible for land use decisions and development proposals.

This section provides examples of effective environmental policy provisions that are currently in use by local governments in the project area, as well as recommended provisions drawn from key resources (listed below). To be relevant to different types of planners and decision makers, the information is sorted by granularity, from high-level coarse scale regional strategies through to OCPs, zoning, protection bylaws, and finally EDPAs at the finest scale. Implementation mechanisms and a list of objectives that policies should include are also provided.

The conservation of sensitive ecosystems can be supported by enacting stronger policies and improving decision support tools to ensure further losses are slowed or halted. [227] Policies that are explicit about environmental values and nature-based solutions give common language to decision-makers, planners, and the community that can also be used as a framework for bylaws.

4.2 Resources

The policy examples provided in this section draw largely from various OCPs and Regional District strategies as well as the following comprehensive sources. Users are encouraged to go directly to these guidance documents to better understand the rationale and background on the examples presented. Where possible, the applicable section and page number are provided:

ACT. 2024. Natural Solutions Initiative: Regulatory Mechanisms Toolkit. Action on Climate Team, Simon Fraser University. 40 pp with appendices. Available at https://www.sfu.ca/content/sfu/act/reports/regulatory-mechanisms-toolkit/_jcr_content/main_content/download/file.res/NbS%20Regulatory%20Mechanisms%20Toolkit.pdf.

BC Ministry of Environment. 2014. Th. 394 pp with appendices. Available at https://www2.gov.bc.ca/assets/gov/ environment/natural-resource-stewardship/best-management-practices/develop-with-care/dwc-cover.pdf.

Chochla, A. 2024. Green Bylaws for the Sunshine Coast: Bylaw and Regulatory Opportunities for the Sunshine Coast Regional District to Strengthen its Sensitive Ecosystem Protections. Prepared for Community Development Forum in collaboration with the Sunshine Coast Conservation Association. 45 pp. Available at https://drive.google.com/file/d/1NiLsEeFLwfJQXZBByzwJrzX7g04xil3I/view

Curran et al. 2021. Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure. 396 pp. Available at https://stewardshipcentrebc.ca/green-bylaws/

[227] Ross et al. 2024. Assessment of sensitive ecosystems converted or lost between 2002 to 2022 on the east coast of Vancouver Island and Southern Gulf Islands. Report prepared for Canadian Wildlife Service. 16 pp.

Garry Oak Ecosystems Recovery Team. 2014. Model Bylaws for the Protection of Garry Oak and Associated Ecosystems. Victoria, B.C. 187 pp. Available at https://goert.ca/wp/wp-content/uploads/GOERT-Model-Bylaws-2014.pdf

4.3 Legal compliance and due diligence

It is expected that the example policy text drawn from existing local government policies complies with provisions under the *Local Government Act*, *Community Charter*, and other relevant legislation. Other suggested policy text provided in this section has, in many cases, been drawn from sources that have undergone review by persons qualified to assess for legal compliance. However, users of this text are advised to carry out their own due diligence. The recommendations in this toolkit should be tailored to the specific context of the area where they are being implemented. This requires consideration of the rights and needs of interested and affected parties, as well as all applicable provincial and federal legislation. This toolkit is intended to be educational and does not constitute legal advice.

4.4 Policy gaps

The following are gaps in policies pertaining to climate resilience and biodiversity that are common to many OCPs and RGSs but that can be addressed with good policy that is implemented through actions:

a. OCP policy statements are often **highly aspirational** and lack specifics.
b. OCPs often lack **clearly defined objectives** to advance nature-based climate resilience and biodiversity protection.
c. OCPs often lack reference to quantitative **targets and indicators** against which policy performance can be measured.
d. The value of ESAs is recognized but **growth and development are placed ahead of ESA protection** and retention.
e. The benefits of **ESA retention** are not explicitly recognized as an effective means of achieving **climate resilience** such as mitigating climate-driven hazards (e.g., erosion, flooding, drought).
f. **Habitat connectivity** is often not considered at the site, neighbourhood, or regional level.
g. **EDPA guidelines** may be poorly defined and/or poorly communicated.
h. No requirement in EDPA guidelines to evaluate **cumulative effects** of adjacent or subsequent development projects.
i. **Tracking land cover change**, particularly of intact ecosystems, is not explicit in policy as a planning tool.
j. Linkages between natural areas protection and **carbon sequestration** are not always explicit or leveraged.
k. Communities are not harmonized in how they **define and/or protect ESAs**.
l. OCPs can lack commitments to **collaborate with First Nations** on land use planning and environmental protection.
m. OCPs rely on static and **out of date maps and information**, such as the Sensitive Ecosystems Inventory, that have not been updated in many years, contain errors, or do not keep pace with community growth and development.
n. OCPs do not usually incorporate language that would **allow sensitive ecosystems that are not presented on the OCP maps** to be taken into account.
o. **Terms of reference for QEPs** undertaking environmental site assessments are poorly defined.

p. **Bylaw mechanisms are poorly defined** and not well communicated in ways that minimize opposition from landowners.

4.5 Policy objectives

To advance nature-based climate resilience and biodiversity protection, local governments should establish clear and long-term land use and environmental objectives that can be achieved through policies linked to targets and indicators. Objectives can help address the gaps noted above. Table 5 lists key objectives that are of value in OCPs and/or regional plans:

Table 5. Recommended policy objectives for climate resilience and biodiversity conservation

Theme	Objectives
Over-arching & multi-theme	1. **Maintain intact ecosystems** and their functions 2. Maintain connectivity between important habitat and intact ecosystems 3. Restore degraded ecosystems. 4. Consider **ecological integrity** and the **cumulative effects** of development on natural assets in planning and development permit decisions. 5. Frame environmental protection and policies around the principles of **precaution, connectivity, and restoration.** 6. Embed **region-wide and watershed level conservation objectives** consistently within and across policies and jurisdictions. 7. **Align land-use and development policies** across the jurisdiction through coordination and collaboration. 8. Base planning and development decisions on comprehensive **science-based knowledge**, including **up-to-date maps**. 9. Shift development permitting from prescriptive environmental standards to **performance-based standards** that set out desired outcomes and actions on how to meet the standards. 10. Enact **zoning bylaws and land use designations** that have environmental protection as a specific purpose. 11. Update long-term policies and bylaws to **conform with DRIPA**.
Land cover and land use	1. Manage growth and protect ESAs by directing new development into existing serviced areas by establishing **urban containment boundaries.** 2. Maintain and **enhance urban forest** and canopy cover.
Environmentally sensitive areas (ESAs)	1. **Protect and enhance ESAs** including wetlands, riparian areas, mature and old growth forests and the **connections** between them. 2. Establish or update **ESA mapping**. 3. Establish policy / regulation, **binding mechanisms and enforcement** to guide development away from ESAs. 4. Monitor the **ecological health of ESAs**. 5. Provide conditions in permits that emphasize **naturescaping principles** into landscaping, using a diversity of locally native plants.

Theme	Objectives
Hydrologically sensitive ecosystems	1. Improve the health of **watersheds and freshwater/marine shoreline habitat**. 2. Use an **ecosystem-based approach** to watershed planning and management to preserve ecological health and the ongoing function of ecological processes. 3. Re-think engineering and design to include **green infrastructure alternatives** to grey infrastructure in riparian areas (e.g., bridges, culverts).
Ecosystem connectivity	1. Identify **connectivity** as a principle in plans and bylaws and identify connectivity on maps. 2. Define zoning and support policy with bylaws that enable and protect **ecological connectivity**
Species at risk	1. Protect **species at risk and their habitat**, and the connections between them. 2. Ensure that development does not result in **net loss of native biodiversity**. 3. **Identify and monitor** indicator species, habitat and ecosystems to understand changes over time.
Nature-based solutions to climate change	1. Ensure **climate and natural asset targets** in policy documents are quantifiable and linked to activities local governments can achieve.

4.6 Targets and indicators

In many cases, local government policies are qualitative and aspirational, generally reflecting a community's desired direction and future conditions. In cases of environmental and climate objectives, wherever feasible, policies should be further refined to include or refer to measurable, quantitative targets and performance indicators that are supported by a funded monitoring and adaptive management program. A robust monitoring program helps local governments measure their progress towards achieving goals and objectives. Also, the *Local Government Act* requires regional districts to measure progress on Regional Growth Strategies (RGS).

It is recommended that local governments work with qualified environmental professionals to establish targets and performance indicators that are appropriate to regional conditions, ideally in collaboration with other local governments and First Nations, and coherent with the OCP vision and objectives. If not explicit in the OCP, targets and indicators could be laid out with actions in biodiversity, conservation, climate, and/or urban forest strategies, provided the OCP makes reference to those documents. This process may also fit best within a Natural Assets Strategy process, i.e., find out what natural assets exist, what condition they are in, then identify what and how to improve with targets, and monitor to evaluate performance with indicators.

Targets are usually numerical and state the desired quantitative goal. They are currently most often seen in the context of GHG emissions. Some examples of environmental policy targets are:

- Protect ##% of the region for nature by 20##
- # trees planted on [public lands, private lands] [in # percent of ESAs] [in # hectares] over the next # years.
- # hectares (or percent of total hectares) of natural ecosystems restored to within 70% their range of natural variability in the next # years.
- natural ecosystems are not disturbed beyond 30% of their range of natural variability.

- # tCO2e* offset by planting # trees greater than # dbh over the next # years

Indicators are the environmental factors or values being measured, such as biodiversity, intact ecosystems, species at risk, parkland, or carbon. Taken together, using indicators to measure performance in achieving targets is a way of assessing the state of the environment of a region or municipality. If not chosen wisely, indicators can be difficult to track, suffer from data challenges, or poorly represent the goal they are associated with. Examples of targets and indicators that align with policy statements are provided in the regional growth strategies and OCP sections below.

4.7 Regional growth strategies

4.7.1 Jurisdiction

As described in section 3.4.3, Regional Growth Strategies (RGS) are enabled under the *Local Government Act* (LGA) Part 13. An RGS is a voluntary, consensus-based regional land use planning policy document coordinated by a regional district for its member municipalities. An RGS should address regional environmental goals with a 20-year timeline. All regional district bylaws and plans, and all OCPs of member local governments must be consistent with the RGS.

A well-crafted RGS can drive the protection and development of ecological networks across jurisdictional and ownership boundaries by designating biodiversity corridors. Objectives and policies for ecosystem protection should be stated. This helps raise the profile of regional ecological values and explain links between sensitive ecosystems and biodiversity to programs such as waste management, water conservation and responses to climate change. An RGS should recommend that protection of these ecosystems be incorporated into municipal OCPs, green infrastructure planning, watershed planning, biodiversity conservation strategies, environmental management systems and corporate strategic and operational documents.

An RGS may also identify land acquisition priorities and may itself include a regional biodiversity conservation plan (see section 4.8). Almost all RGSs in the province contain urban growth boundaries and policies to direct new development into serviced or near urban areas, with the aim of leaving rural and natural landscapes less disturbed. An RGS can also enhance the effectiveness of stewardship initiatives and facilitate collaborative financing.

4.7.2 RGS policy provisions

To support biodiversity and protect connectivity, an RGS should at a minimum contain policies that:

- clearly define "urban" and "rural" in terms of lot size and density;
- contain urban areas, and direct development and density into already serviced areas;
- protect rural landscapes from fragmentation;
- include maps designating land into classes or categories, including sensitive ecosystems, regional greenway or biodiversity corridors, unprotected green space, and priority parkland acquisitions;
- cluster development away from ESAs and SAR; and

- enable development of a regional biodiversity conservation strategy.[228]
- Incorporate nature-based solutions to protect communities from natural hazards such as drought, flood, storms and heat domes.

Table 6 provides examples of policy text drawn from existing RGS in the project area. In most cases, these are policies that member municipalities have adopted in their bylaws.

[228] Garry Oak Ecosystems Recovery Team. 2014. Model Bylaws for the Protection of Garry Oak and Associated Ecosystems. Victoria, B.C. 187 pp. Available at https://goert.ca/wp/wp-content/uploads/GOERT-Model-Bylaws-2014.pdf

Table 6. Policy provisions for Regional Growth Strategies

Theme	Policy statement	Adapted from	Indicators
Multi-theme	**Conserve and enhance biodiversity and ecological services** by protecting ecologically important features and corridors, including floodplains, shorelines, intertidal areas, stream systems, aquifers, and urban forests.	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.8, pg 29	Area of natural forest, floodplain, riparian buffers, intertidal areas, aquifers – tracked over time.
Land cover and land use	Encourage land use, infrastructure, and human settlement patterns that reduce fossil fuel and the associated emissions, **create carbon storage opportunities, and improve ecological connectivity.**	City of Nanaimo Shaping Our Future 2040 (2024) , policy 1.2, pg 25	Tonnes of carbon stored in intact ecosystems. Tonnes of carbon stored in the urban forest canopy. Total hectares of connected and intact habitat.
Environmentally sensitive areas	1. Work with the federal and provincial governments to **identify and protect natural areas that are representative of the region's ecosystem** and form systems of interconnected areas and natural corridors capable of sustaining native plant and animal communities.	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.6, pg 29	The area of land protected in the CRD as Regional Park (Capital Regional District Regional Growth Strategy Indicators Report 2023 , Summary). Change in area and quality of ESA.
	2. Work with property owners, businesses, the provincial government, and First Nation communities to improve, support, and **increase awareness of the essential services** that forests provide in the region such as: • ecological diversity and a healthy natural environment • natural stormwater management, erosion reduction, water filtration • carbon dioxide storage • air temperature moderation in urban areas • spiritual and cultural enrichment	City of Nanaimo Shaping Our Future 2040 (2024), policy 1.12, pg 27	

Theme	Policy statement	Adapted from	Indicators
	3. Use a **sensitive ecosystems atlas** as a common method of collecting and displaying conservation and environmental information.	Comox Valley Regional District Regional Growth Strategy, obj 2-A3, pg 35	
	4. Encourage local governments to either individually or jointly regularly **update environmental mapping** that depicts critical information such as sensitive ecosystems, watercourses and riparian areas, parks and greenways.	Comox Valley Regional District Regional Growth Strategy, obj 2-A2, pg 35	
	5. Prepare a complete **bio-inventory** of regionally significant ESAs, SAR, and the natural biodiversity of the region.	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.11, pg 29	
Hydrologically sensitive	Undertake **watershed-based planning**, integrated with the protection of ESAs, including wildlife corridors.	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.1, pg 28; Capital Regional District, Regional Growth Strategy Indicators Report 2023, 2.1(d), pg 11	Length of stream with canopy cover and or naturalised embankments. Length of stream that is compliant with provincial legislation setbacks.
Ecosystem connectivity	1. Ensure OCPs adopt clear definitions and guidelines for **ecological greenways** and work with neighbouring local governments to **create region-wide linkages**.	Comox Valley Regional District Regional Growth Strategy , obj 2-B2, pg 37	Percentage of green infrastructure network in public ownership (City of Surrey, pg 304)
	2. Work with member local governments to establish or strengthen policies within OCPs that ensure the **long-term protection of ecological connectivity hubs and corridors** depicted on [maps], including policies aimed at connecting these lands and buffering them from activities in adjacent urban areas.	Curran et al, 2021, Green Bylaws Toolkit, s. 17.1, pg 189	

Theme	Policy statement	Adapted from	Indicators
Nature-based solutions to climate change	1. **Maximize co-benefits** by coordinating land use planning and future infrastructure investment efforts (**including natural assets**) to reduce the risk of climate change impacts (wildfires, extreme weather events, flooding, coastal storm surge, erosion, sea level rise, etc.).	City of Nanaimo Shaping Our Future 2040 (2024), policy 1.9, pg 26	
General	1. Encourage local governments to work together and with First Nations and other organizations to adopt **consistent actions and policies for environmental and natural asset protection**, through OCPs, zoning (protection or EDPAs), restoration, ecological connectivity, watershed health and other mechanisms, that promote the principles of precaution, connectivity and restoration.	Comox Valley Regional District Regional Growth Strategy, obj 2-B1, pg 37	
	2. Consider the impacts on **ecological structure and function** of land use decisions and require an environmental review for projects with the potential to negatively affect ESAs, the coastal zone, or environmental quality.	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.13, pg 29	

4.8 Regional conservation strategies

Regional conservation (or biodiversity) strategies (RCS) are enabled under the *Local Government Act* Parts 13 and 14 and can be part of an RGS. As described in section 3.4.4, an RCS differs from an RGS in that it promotes a landscape-level view of a region as a whole and provides a framework for considering conservation options for entire ecosystems and watersheds. This regional view encourages thinking beyond municipal boundaries and presents opportunities for collaboration among municipalities on conservation efforts, often with cost-saving benefits. For example, an RCS can consider the whole extent of a riparian corridor that crosses municipal boundaries. A well-crafted RCS will be based on agreement among member municipalities and the regional board; however, this may lead to compromises on ecological goals and actions.

Although RCS are not often used as a regional tool, they in fact represent the level at which ecological and climate resilience planning should take place. Metro Vancouver's Climate 2050 Nature & Ecosystems Roadmap [229] provides a good example that other regional districts may draw from. It lays out 31 actions for storing carbon and increasing resiliency, organized under five strategic areas. The Roadmap also includes goals and specific targets. It acknowledges that working closely with First Nations, the federal and provincial governments, member jurisdictions, and other key partners is critical to effectively implementing and achieving these. Table 7 captures the five themes and 31 actions.

Table 7. Metro2050 Nature & Ecosystem Roadmap themes and relevant actions (source link).

A. Protect, restore, and enhance the region's ecosystems
1. Protect an additional 10% of the region for nature. 2. Continue to implement the Regional Parks Land Acquisition 2050 strategy to increase the amount of important natural areas protected in the Regional Parks system. In regional parks and the drinking water supply areas, continue to restore and enhance degraded sites, enhance biodiversity, and promote ecosystem resilience. 3. Protect, restore, and enhance natural areas at the local scale through measures such as land acquisition, density bonusing, development permit requirements, subdivision design, conservation covenants, land trusts, and tax exemptions. (Adding green infrastructure planning and nature-based solutions to this statement is desirable.) 4. Incorporate climate change planning into protected area management 5. Advocate to the BC Government to make ecosystem health and biodiversity conservation the overarching priority of forest management and implement the recommendations of the strategic review of old forest management. 6. Provide data, guidance materials and best practices to inform the protection, restoration, and enhancement of ecosystems in the region. 7. Advocate to other levels of government and other agencies to commit to ecosystem restoration and enhancement at a significant scale to reverse the loss of the region's ecosystems.

[229] Metro Vancouver 2023. Climate 2050 Roadmap: Nature & Ecosystems. https://metrovancouver.org/services/air-quality-climate-action/Documents/climate-2050-nature-and-ecosystems-road-map.pdf, accessed March 2025.

8. Support regional invasive species management by tracking disposal options, and working with researchers to improve the understanding of the potential spread of invasive species as our climate continues to change. Employ best practices to prevent the introduction and spread of invasive species on lands managed by Metro Vancouver.

B. Connect green infrastructure

1. Develop a regional green infrastructure network.
2. Support the greening of urban areas by developing and sharing best practices and guidelines to incorporate green infrastructure into new developments and redeveloped areas.
3. Green the regional greenways network by incorporating green infrastructure, restoration of ecosystems and unprotected natural areas in greenway planning and design.
4. Minimize ecosystem fragmentation
5. Develop data and resources to support ecosystem connectivity

C. Integrate natural assets into conventional asset management and decision-making processes

1. Incorporate natural assets into asset management and financial planning.
2. Integrate ecosystems and their services into the design of major infrastructure.
3. Consider ecosystems and their services in major development decisions.
4. Support natural asset management at the local level.
5. Explore the legal landscape and other barriers that may inhibit natural asset management.

D. Support a resilient, robust, and healthy urban forest

1. Achieve 40% tree canopy cover within the region's urban areas
2. Provide and share data and resources to support urban forest management.
3. All member jurisdictions, through implementation of the regional growth strategy, will enable the retention and expansion of urban forests using various tools, such as local tree canopy cover targets, urban forest management strategies, tree regulations, development permit requirements, land acquisition, street tree planting, and reforestation or restoration policies, with consideration of climate resiliency.

E. Advance nature-based solutions to climate change

1. Explore the viability of innovative financial and incentive mechanisms (such as nature-based carbon offsets and credits, conservation levies, green bonds, insurance-based funding, and payment for ecosystem services.
2. Plan for climate change impacts on ecosystems.
3. Advocate that member jurisdictions include nature-based solutions in climate action plans.
4. Support the implementation of nature-based solutions by working with academic institutions and other regional partners.
5. Advocate to the BC government to continue implementing measures that adapt forests to a changing climate
6. Work with partner organizations to advance cross-jurisdictional nature-based solutions to address flood hazards
7. Work with academic institutions and other regional partners to better understand long-term health and blue carbon storage potential in the region's coastal and marine ecosystems (tidal marshes, eelgrass, kelp, etc).
8. Work with key partners to address climate change issues in coastal and marine ecosystems.

4.9 Official community plans

4.9.1 Jurisdiction

Official Community Plans (OCPs) are enabled under the *Local Government Act* sections 471-475, and 477-478 and are adopted as a local government bylaw. An OCP is a statement of goals, objectives, and policies intended to guide local government decisions on planning and land use management within the area covered by the plan.

LGA s.473 (1)(d) states that an OCP must include statements and map designations for the area covered by the plan with respect to restrictions on the use of land that is subject to hazardous conditions or that is environmentally sensitive to development. LGA s.488(1)(a) states that an OCP may designate development permit areas for protection of the natural environment, its ecosystems and biological diversity. With this authority, local governments may, for example, set EDPA guidelines for protecting ecosystems.

4.9.2 OCP policy provisions

Table 8 provides examples of OCP policy text drawn either from existing OCPs or from legally vetted publications (e.g., Green Bylaws Toolkit).

Table 8. Official Community Plans (OCP) policy provisions, sources, targets, and indicators

Theme	Policy statement	Adapted from	Target / Indicator
Leadership / Multi-theme	Integrate **public trees, forests, and green infrastructure** into asset management planning, including budgeting, policy development, and staff resourcing.	City of Courtenay OCP , NE23 pg 127	
	When conducting comprehensive OCP reviews, ensure that **the most currently available information** regarding canopy cover, sensitive ecosystem inventories, connectivity analysis and invasive species inventories are included to inform long range land use decisions and Development Permit guidelines.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 83.	
First Nations	Commit to incorporating **Indigenous perspectives** into land use decision processes. Seek guidance from Indigenous partners in how to make this commitment a reality.	City of Courtenay OCP, pg 20	
	Work with local First Nations to consider **protections for culturally important features** and identify current habitat linkages and how to re-establish missing linkages.		
	Work with local First Nations to develop effective **conservation strategies**.		
	Explore Indigenous Protected and Conserved Areas, Land Codes, and other land **stewardship approaches** as opportunities to collaborate with First Nations.		
	Work with First Nations to consider culturally important features and identify current habitat linkages and how to re-establish missing linkages.		

Theme	Policy statement	Adapted from	Target / Indicator
Land cover and land use	**Use land cover monitoring** to identify different ecosystem types (e.g., forest, riparian) and aim for no net loss of native vegetation post-development.	Curran et al, 2021, Green Bylaws Toolkit, s. 4.6.6, pg. 39	Track area impacted by development and logging. (Cowichan Valley Regional District Indicators Dashboard, pg 13) Track type and proportion of natural areas (City of Surrey Biodiversity Conservation Strategy, pg 93)
	Use land cover change monitoring to **identify retention or connectivity targets**, e.g., no net loss or net gain of certain land cover types (ESA, riparian, forest, etc.).		
Environmentally sensitive areas	An **ecosystem-based approach** to planning and management will be used to preserve ecological health and the ongoing function of ecological processes.	City of Courtenay OCP, NE2 pg. 123.	Target goal of 40% canopy coverage for the entire city (Surrey OCP , pg 149) or Achieve 40% tree canopy cover within the Urban Containment Boundary (Metro Vancouver Climate 2050 Nature and Ecosystems Roadmap , pg 35) or Every neighbourhood has at least a 30% canopy coverage (City of Nanaimo Monitoring Strategy 2024 , pg 19) Protect 50% of the region for nature (Metro Vancouver Climate 20250 Nature and Ecosystems Roadmap, pg 35)
	Preserve sensitive ecosystem areas, their living resources, and connections between them in a natural condition and maintain these areas free of development and human activity to the maximum extent possible.	Curran et al, Green Bylaws Toolkit , 18(3)(b)(1) pg 194.	
	Protect and expand the existing **urban forest / tree canopy** through implementation of an **Urban Forest Strategy**, ensuring that planted tree species are appropriate for forecast climate conditions and that large native trees are preserved.	City of Courtenay OCP, NE24 pg 127.	
	Sensitive ecosystems and the connections between them will be **preserved in a natural condition**	City of Courtenay OCP, NE1 pg 123	
	Collaborate with landowners, other levels of government, non-governmental organizations, and neighbouring jurisdictions in developing **regionally consistent approaches to conserving, and restoring environmentally sensitive areas, watershed health and**	City of Courtenay OCP NE 4 pg 123.	

Theme	Policy statement	Adapted from	Target / Indicator
	species at risk, using the principles of precaution, connectivity, and restoration.		Track the type of ESAs in each electoral area (Cowichan Valley Regional District Indicator Dashboard pg 14) Area of CVRD protected as park. (Cowichan Valley Regional District, Indicator Dashboard pg 15) Track the change in area or % cover of each Environmentally Sensitive Area type across the region. (Cowichan Valley Regional District, Indicator Dashboard, pg 18)
	Develop management plans for all **natural area parks** that focus on protecting or enhancing ecological integrity of ecosystems, ESAs, and connectivity corridors.	District of Saanich OCP , pg 40.	
	Adopt Park Plans that include strategies and policies to **protect and conserve the natural environment.**	City of Nanaimo Shaping Our Future 2040 (2024), policy 2.14, pg 29	
	Work in collaboration with property owners, developers, businesses, and appropriate provincial and federal agencies to **restore damaged ecosystems and utilize mapping to identify highest priority area**s.	City of Nanaimo Shaping Our Future 2040 (2024) , policy 2.1, pg 29	
	While the municipality supports creation of new housing supply as detailed in the OCP, it also values its natural assets and aims to ensure the long-term protection of environmentally sensitive areas [e.g., through zoning and EDPAs].	City of Colwood, Bylaw 1700-10 OCP Amendment (Env. DPA)- Engagement Update and Response, Appendix 7, pg 16.	
	ESA data and mapping		
	Regularly update ecosystem data (e.g., terrestrial, aquatic, marine, invasive species, and species at risk) as new information becomes available and make it available on a public GIS portal. Continue to refine the precision of **terrestrial ecosystem polygon boundaries** through ground-truthing and high-resolution ortho-imagery.	District of Saanich Biodiversity Conservation Strategy, pg. 8.	
	Collaborate with landowners, other levels of government, non-governmental organizations, and	City of Courtenay OCP , NE 4 pg 123;	

Theme	Policy statement	Adapted from	Target / Indicator
	neighbouring jurisdictions to develop **regionally consistent approaches to inventorying and mapping** ESAs and species at risk.	Curran et al, 2021, Green Bylaws Toolkit, s.18.3, pg. 195.	
	Maps that show ESAs, land cover including different ecosystem types, connectivity corridors, EDPAs, and species at risk critical habitat are integral to the OCP.		
	Current and (where possible) dynamic mapped data will be used to inform land use planning and land use decisions to augment the static maps within the OCP.		
	Map and inventory baseline ecological conditions before deciding what to change, to inform long-term planning, establish and fund a land cover and land cover change monitoring program that targets natural areas and features.		
Hydrologically sensitive (including marine)	**Conserve wetlands** to sustain their water storage, ecological, carbon and socioeconomic functions.		100% of water samples at selected monitoring sites within the city meet BC Water Quality Guidelines. (City of Nanaimo Monitoring Strategy 2024, pg 20). Length of stream with canopy cover or naturalized embankments. Length of stream that is compliant with provincial legislation setbacks.
	Establish a **requirement within the EDPA guidelines for a 30-metre setback** from the stream boundary when conducting development on properties subject to the Riparian Areas Protection Regulations (RAPR), whenever opportunities for a 30-metre setback are possible.	City of Courtenay OCP , NE29 pg. 128.	
	Conduct analyses to predetermine **setbacks on streams** subject to the RAPR for areas where a 30-metre setback cannot be achieved.	City of Courtenay OCP , NE30 pg. 128.	
	Ensure that development does not negatively impact watercourse or wetland environments or, where such impacts are unavoidable due to the existing	District of West Vancouver policy NE13, OCP Schedule ii, pg 104	

Theme	Policy statement	Adapted from	Target / Indicator
	configuration of parcels of land in relation to **watercourses or wetlands,** to ensure that development does not result in a net loss of productive fish habitat.		
	Favour **nature-based solutions & green infrastructure** options (e.g., rain gardens, vegetated swales) when planning for grey infrastructure replacement, such as dams and other water management features.		
	No loss of quantity, quality, and function of wetlands. Monitor water quality and prevent pollution.	Curran et al, 2021, Green Bylaws Toolkit, s. 20.6, pg. 236 and others.	
	Identify, map, and classify all the wetlands and wet forest.		
	Marine		
	Develop a shoreline policy to **conserve remaining natural shorelines**, and restore armored shorelines with green shores approaches to the maximum extent possible.	City of Courtenay OCP , NE10 pg. 125.	Increase the length / area of naturalised shoreline (District of Sechelt Integrated Community Sustainability Plan Goals and Actions, S 3.0) – Pacific Salmon Foundation Shore line mapping project.
Ecosystem Connectivity	**Cross-jurisdictional ecosystem connectivity corridors** will be established to preserve and restore long-term connectivity between sensitive ecosystems.	City of Courtenay OCP , NE3 pg. 123.	Percentage of green infrastructure network in public ownership (City of Surrey OCP, pg. 304)
	ESAs, riparian areas, and natural areas will be linked, using green corridors where appropriate, and designed to maintain biodiversity.	Saanich OCP , 6.1.5 pg. 40.	

Theme	Policy statement	Adapted from	Target / Indicator
	Ecosystem connectivity will be **protected through EDPAs and conservation covenants**, and by coordination and collaboration among jurisdictions.	Green Bylaws for the Sunshine Coast, 2024. S. 1.	
	Where appropriate, install wildlife over- or under-passes to **maintain connectivity** corridors and reduce wildlife-vehicle collisions.	City of Surrey – Biodiversity Design Guidelines – Road Ecology	
	Ensure connectivity of properties and landscapes to support ecosystem processes. This includes incorporating considerations such as wildlife movement and historical hydrological patterns into the development proposal including transportation and utility corridors.	City of Courtenay OCP , NE26 pg 127	
	Evaluate and **bring together existing policies, plans, and programs**, and conduct additional research as necessary, to inform a Biodiversity and Green Infrastructure Network Strategy.	City of Courtenay OCP , NE9 pg 124	
Species at Risk	Where possible, preserve areas (including buffers) that contain plants and animal habitat that are **designated under SARA Schedule 1** and are red listed (endangered) or blue listed (vulnerable) by the BC Conservation Data Centre.	District of Saanich Development Permit Area Guidelines , 3.6.1(c)	
	Establish a schedule for **monitoring and updating the OCP maps** when new ESA or SAR information becomes available.		
	Control of Invasive Species		
	Develop an **invasive species management bylaw** that requires immediate removal of listed invasive species that have been newly introduced, imminently threaten	GOERT Model Bylaws , s. 15.2 pg. 138	

Theme	Policy statement	Adapted from	Target / Indicator
	critical habitat for species at risk, or threaten human health.		
	Work in partnership to minimize the further introduction and spread of invasive species, and develop an **invasive species management plan** to prevent, eradicate, contain, and control the spread of invasive species in [community] and the wider region.	City of Courtenay OCP , NE8 pg 124	
	Fund and commit to a **volunteer-based invasive species management** program that has professional oversight.		
	Establish an **invasive species bylaw** that identifies priority species and requires removal of those species from private properties.	District of Saanich Development Permit Area Guidelines , 3.6.1(d)	
Nature-based Solutions to climate change	Double the rate of tree planting to **enhance urban forest for increased carbon** sequestration and other ecosystem services while ensuring climate-appropriate tree species are selected.	District of Saanich Climate Plan , pg 3	45% reduction in greenhouse gas emissions by 2030, and establish the foundation for the 30-year goal of a carbon neutral region by 2050 (Metro Vancouver Climate 2050 Nature and Ecosystems Roadmap, pg 16) Track changes to forest carbon stores as a result of harvesting and development (Action for Adaptation Forest Carbon and Land Cover Mapping)
	Continue **annual planting targets** of ### new trees on public land and work towards ### new trees on private land until [year]	City of Courtenay OCP , NE21 pg 127	
	Protect and enhance the **carbon sequestration value of natural systems** by enhancing the urban forest and protecting local soil.	Township of Esquimalt OCP	
	Consider levying a **land acquisition tax** specially targeted at **sequestering carbon**, particularly wetlands and forests. This also serves to protect sensitive ecosystems, habitat for species at risk and of cultural value, and connectivity.		

Theme	Policy statement	Adapted from	Target / Indicator
General	Protect natural areas by maintaining the **Urban Containment Boundary** (UCB) and encouraging compact urban development inside the UCB.	Saanich OCP, 6.1.3 pg. 40.	Percentage of residential growth occurring within the Urban Containment Boundary (Metro Vancouver, Metro Vancouver 2024 - 2028 Financial Plan – Regional Planning, pg. 390).
	Environmental Development Permit (EDPA)		
	Protect areas of high environmental sensitivity by **not permitting development** on these sites, or through **development control** and the securing of these areas in public ownership where appropriate.	Port Coquitlam OCP, s. 7.4, pg. 37.	
	Any property within 50 m of a stream or that contains an ESA may require an EDP. No site clearing, regrading or other land disturbance is permitted until an EDP is issued. Several different types of reports and plans may be required as part of the EDP application. Information on each of these reports/plans can be found at [insert links as appropriate].	City of Abbotsford Natural Environment Development Permit policy	
	Require developments adjacent to ESAs, including ecosystem connectivity opportunity areas, be subject to EDPA guidelines	City of Courtenay OCP , NE28 pg 128	
	Utilize Streamside Development Permit Areas for ecosystem corridor connection opportunities.	City of Courtenay OCP	
	Prior to any development work on lands that contain an EDPA, including site preparation, an EIA shall be prepared by a QEP and have input from other professionals of specific expertise where required.	City of Courtenay Terms of Reference for EIAs	

Theme	Policy statement	Adapted from	Target / Indicator
	Dedicating very small parcels as park to satisfy DPA requirements will be avoided unless contiguous with or within 50 m of existing natural area parks and unless they will be maintained free from invasive species.		
	Develop detailed **terms of reference** with standards to direct consistent performance by QEPs to safeguard sensitive ecosystems from adverse effects.		
	EDPA - Environmental Impact Assessment		
	Require all development proposals on properties equal to or greater than 4,000 metres square in size to submit an Environmental Impact Assessment (EIA) to determine the presence or absence of Environmentally Sensitive Areas	City of Courtenay OCP , NE27 pg. 127.	
	Site assessments or EIAs will be assessed by staff having **appropriate ecological expertise** (e.g., environmental planner).		
	Where it is determined that an EIA is required, establish clear terms of reference to direct how the EIA is to be carried out.	City of Courtenay Terms of Reference for EIAs	
	Consider requiring an EIA for all properties showing an ESA or any property >1 ha, even if previously disturbed.		
	All development proposals that involve a change in zoning, subdivision, or amendment to a plan must undergo an **environmental impact assessment** process before development approvals are granted. Development design must reflect the objectives and guidelines of best management practices.	Curran et al, Green Bylaws Toolkit, 18(3)(b)(1) pg. 194.	

Theme	Policy statement	Adapted from	Target / Indicator
	Site assessments shall require consideration of **cumulative effects**, such as habitat fragmentation, as well as off-site impacts, such as increased risk of flooding or sedimentation downstream.	SFU ACT, Regulatory Mechanisms Toolkit, s. 2.1.1 pg. 9.	
	Bylaws		
	Adopt or update a **Tree Protection Bylaw** to strengthen tree cover protection.	District of Sechelt, Tree Protection Bylaw Township of Esquimalt, Tree Protection Bylaw	Target goal of 40% canopy coverage for the entire city (Surrey pg 149) or Achieve 40% tree canopy cover within the Urban Containment Boundary (Metro Vancouver pg 35) or Every neighbourhood has at least a 30% canopy coverage (City of Nanaimo pg 19)
	Enact Zoning Bylaw requirements to avoid impact to ESAs, including but not limited to: a. Cluster housing zones to allow for a tighter grouping of homes on the most buildable portions of the property in exchange for retaining larger portions of the land in a natural state, and allowing the owner(s) of land containing ESAs to use the original site area in computing density allowances, in accordance with the Zoning Bylaw; b. Density bonusing in exchange for increased nature protection or restoration; and c. Limiting the extent of impervious surfaces.	City of Courtenay OCP , NE25 pg 127	
	Monitoring, compliance and enforcement		

Theme	Policy statement	Adapted from	Target / Indicator
	Monitor **compliance** and other legal requirements such as covenants related to protecting sensitive ecosystems.	City of Courtenay OCP , NE7 pg. 124.	Produce a State of the Environment report every five years.
	Commit resources for **effectiveness monitoring** of replacement lands or restoration of lands.		

4.10 Local government strategies

Local government environmental strategies may be specific to such issues as biodiversity, climate adaptation, land and parks acquisition, urban forests, and natural asset and watershed management. They may vary greatly to reflect each community's conditions, goals, and capacity, but ideally they will provide a policy framework of priorities, goals, objectives, and indicators and targets for measuring performance. An action plan should also be included so that departments can plan and budget.

Environmental strategies should work in conjunction with and reflect the community's OCP, as well as other strategies, plans, and implementation tools such as bylaws. If there are gaps to achieving biodiversity protection and climate resilience, a strategy should provide recommendations for how these may be filled. Finally, environmental strategies should include current maps showing biodiversity hotspots and ESAs if these are not included in the OCP.

4.10.1 Biodiversity, urban forest, and climate strategies

With current climate change projections, warmer and drier summers are expected to reduce moisture available to trees during the growing season. Windstorms, pests and diseases, drought and wildfire already affect the region's natural and urban forest, and in the future, the variability, frequency and intensity of disturbance events will increase. By planning for these conditions in biodiversity, urban forest, and climate strategies, local governments will be better positioned for climate resilience and healthier communities.

Appendices C, D, and E provide recommended actions drawn from environmental strategies in use by local governments in the project area. Where appropriate, indicators and targets are suggested.

4.10.2 Natural asset management

Natural assets such as forests, wetlands, watercourses, and grasslands contribute to the provision of municipal services to a community such as clean water, flood management, improved air quality, and improved biodiversity. Natural assets are a part of the broader category of green infrastructure. Local governments are increasingly recognizing the intrinsic and financial values of natural assets in their jurisdictions.

Establishing natural asset inventories provides baseline information for calculating values and determining what to protect and restore. This information, coupled with integrating natural asset objectives into policy, can guide planners when making land use decisions ranging from long-term and large scale to site specific development proposals. Natural asset management can help local governments improve climate resilience, environmental protection, and cost effectiveness relative to engineered assets.

To steward natural assets, each municipality needs to formulate a natural asset database, with policies that support the acquisition, protection and restoration of these assets. The Biodiversity Atlas is a resource for such databases and policies.

The following examples of natural asset approaches provide ideas to draw from:

- In 2022, the City of Colwood worked with the Natural Assets Initiative (NAI) to create an inventory of Colwood's natural resources and provide a high-level condition assessment for each asset. This gives Colwood baseline information to build upon. The inventory used LiDAR data to

identify the total area (hectares) of several different natural asset types. The results were used to populate a Natural Assets dashboard. Colwood is at an early stage of integrating asset management into policy and governance as it does not yet have a formal asset management program or policy in place. Senior management and Council are aware of the need to formalize an asset management program, as evidenced by the creation of the Natural Assets dashboard and Colwood's Sustainable Infrastructure Replacement Plan.

- The District of Saanich is in the early stages of developing a natural assets management program. Saanich includes its natural assets under the broader category of green infrastructure. Asset Management Plans will be developed for natural assets as well as eight engineered asset types as depicted in Figure 10, below.

  In 2024, a summary of enhanced natural asset inventory results and recommendations was submitted to Council for consideration. Saanich's next step is to develop the Natural Asset Management Plan, which will further develop the information in the inventory, and also lifecycle management activities, costs and funding strategies for the natural assets that are owned and managed by the District. The Natural Asset Management Plan will be integrated with other Saanich initiatives, from strategic documents and plans to implementation initiatives (Figure 11).

Figure 10. District of Saanich natural asset and green infrastructure categories

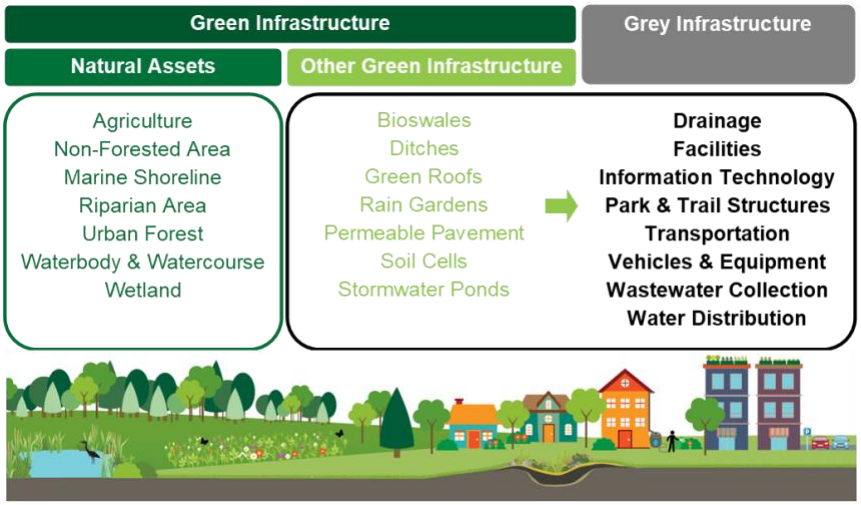
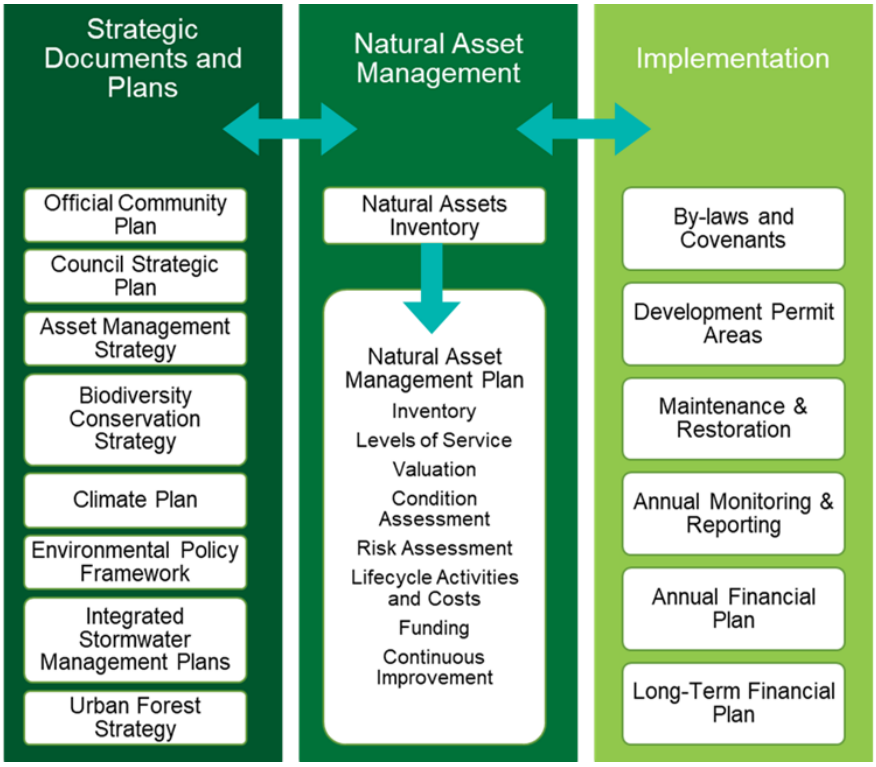


Figure 11. District of Saanich natural asset management policy integration approach



4.11 Implementation tools

Good environmental policy creates the foundation to guide land use decisions, but other tools are needed to implement it effectively. In addition to the OCP bylaw, there are three main tools that local governments can use, from the broad scale to site specific: zoning bylaws, other bylaws, and EDPAs. These are discussed in detail in sections 3.4.7 and 3.4.8. Two other valuable tools discussed below that support implementation are incentives and education.

4.11.1 Zoning bylaws

A zoning bylaw is a powerful tool that local governments can leverage to negotiate land use decisions. On a municipal, regional district, or watershed level, zoning is the primary means of directing development towards appropriate locations that prevent harm to sensitive ecosystems and ecosystem connectivity. The ability to regulate use also includes the ability to prohibit a use within a zone or zones. If a landowner wishes to develop, and the local government wants protection of features, then zoning is a lever. Zoning for conservation is standard practice in BC. The following are example zoning bylaw provisions for environmental protection. [230]

- The setback adjacent to ponds, lakes, and wetlands identified in Schedule [ ] shall include the bed and area between the water's edge and a perpendicular line inland 30 metres (49.2 feet) from the wetland boundary.

[230] Curran et al, 2021.

- The setback adjacent to the sea shall include that area between the water's edge and a perpendicular line inland 30 metres (49.2 feet) from the natural boundary.
- The setback on each side of the main stem of the Green, Blue and Red Rivers shall include that area between the centre of the river and a perpendicular line inland 30 metres from the top of the bank.
- The setback on each side of creeks, rivers, and streams identified in Schedule [ ] shall include that area between the centre of the creek, river, or stream and a perpendicular line inland 15 metres (24.6 feet) from the top of bank
- No building, structure, road, parking lot, driveway, patio, games court, or other impermeable surface shall be located within a setback.
- The depth of each parcel created by subdivision that abuts a watercourse DPA shall be at least 20 metres from the watercourse DPA.

4.11.2 Tree protection bylaws

A well-crafted tree protection bylaw is an effective tool that local governments can implement to help avert disturbance or destruction of forests, particularly on private land. Such bylaws have the co-benefit of conserving terrestrial carbon, sensitive ecosystems, connectivity, and SAR.

Tree protection bylaws are more effective when they provide specifics, for example regarding tree condition and location in relation to natural assets, and not just species and diameter at breast height. Municipalities have the power to apply tree protection bylaws to most private lands within their jurisdiction, whereas regional districts and Local Trust Committees in the Islands Trust area only have the power to apply tree protection bylaws to specific tree cutting permit areas based on hazardous conditions.[231]

At minimum, tree bylaws should require a replacement ratio of 1:1 for large trees and 2:1 for small trees, and a preference for native species or non-native species that do not exhibit invasive tendencies or that are drought-intolerant.

The following are examples of tree bylaws in use:

- Metro Vancouver Regional District offers a Tree Regulations Toolkit to assist local government staff and decision-makers in selecting regulatory tools to help achieve municipal tree preservation or canopy growth objectives.
- District of Saanich Tree Protection Bylaw
- District of West Vancouver Tree Bylaw

The following are examples of tree protection bylaw contraventions and fees currently in use by local governments. It is important to note that, in most municipalities, fees for tree bylaw contraventions are entirely inadequate. The fees shown here are among the highest in the project area and are still far too low to be a deterrent.

- Cutting down a tree in steep slope area - $500

[231] McLean, A, 2021, Tree Protection Bylaws in British Columbia: An overview of tree bylaws in BC and an assessment of their applicability in the Islands Trust area, Report prepared for Raincoast Conservation Foundation, 56 pp., available at https://www.raincoast.org/wp-content/uploads/2021/08/tree-protection-bylaws-in-bc-2021.pdf.

- Damaging a protected tree - $300
- Pruning a significant or protected tree - $300
- Removing tree protection barrier - $300
- Working too close to a protected tree - $300

4.11.3 Environmental Development Permit Area

EDPAs are enabled under the LGA section 488(1)(a), which allows local governments to designate DPAs for the protection of the natural environment, its ecosystems, and biodiversity. A local government may set out EDPA guidelines in its OCP and require that, before any development takes place, landowners must get a permit. EDPA guidelines tell landowners what can be required when setting conditions of the permit. Whereas bylaws apply to broad land use types across a jurisdiction, EDPAs are typically site-specific.

Because EDPAs are not regulatory, enforcing them can be challenging. They work best when they overlap with zoning and prohibitions in regulatory bylaws. With a bylaw in place, failing to adhere to the conditions in an EDP means contravening the bylaw, which can then be enforced through ticketing. To ensure effectiveness, EDPA guidelines should be performance-based, meaning the desired results should be clear. [232]

The following are examples of existing EDPAs:

1. The District of West Vancouver has three types of Natural Environment and Hazard Development Permit Areas and associated guidelines for development to protect and enhance the natural environment and minimize risk to private property from climate hazards. This includes an EDPA to protect watercourses and their riparian habitat, a Wildfire Hazard DPA to protect new buildings and reduce the risk of wildfire spread, and a Foreshore DPA to minimize risk to people and property from coastal hazards, while preserving and enhancing the intertidal habitat of the foreshore. Each DPA is subject to clear guidelines set out in the OCP Schedule ii. These DPAs have been updated to reflect the 2023 provincial SSMUH regulation.

   West Vancouver's EDPA provisions work toward the principle of no net loss to balance unavoidable habitat losses with habitat replacement on a project-by-project basis. The Wildfire Hazard DPA incorporates FireSmart principles and includes all properties within 100 m of a forested area, or approximately 50% of land in the District. The Foreshore DPA requires compliance with guidelines for any development, including tree work, within 15 m of the natural boundary (high tide mark) of the ocean.

2. The City of Surrey has Sensitive Ecosystem Development Permit Area (SEDPA) consisting of two distinct natural environment classifications: Streamside Areas and Green Infrastructure Areas. Streamside Areas represent those areas next to and setback from a stream that link aquatic and terrestrial ecosystems as well as those areas that exert influence on a stream whether for food or habitat reasons. Green Infrastructure Areas represent the Green Infrastructure Network and Biodiversity Management Areas identified in Surrey's Biodiversity Conservation Strategy.

[232] Garry Oak Ecosystems Recovery Team. 2014.

Guidelines and provisions for each DPA are set out in Surrey's OCP and have been incorporated into Table 8.

3. The City of Nanaimo's Zoning Bylaw 4500 (updated June 2024) includes extensive guidelines under its *DPA 1: ESA – Watercourse, Terrestrial & Marine Foreshore*. The ESAs are mapped in their City Plan, which serves as Nanaimo's OCP. The guidelines set out requirements for reports and recommendations from a QEP along with restoration requirements and a stipulation that the principle of net gain will be followed: "a Qualified Registered Professional must demonstrate how an increase in the quality and quantity of functional habitat within the ESA and ESA leave strip will be achieved once the proposed development is completed…" The guidelines also state that maintaining the connectivity of forested corridors is a priority and is strongly encouraged. For more details on the DPA 1 guidelines, see City of Nanaimo's Zoning Bylaw 4500 Part 18, pp. 1-5.

4.11.4 Enforcement

Bylaw enforcement and ticketing by municipalities are enabled under the *Community Charter,* ss. 260, 264-265.[233] Ticketing is the easiest method of enforcement; however, it does not necessarily result in continued compliance. There are three different processes by which local governments may issue tickets: the Municipal Ticket Information (MTI), the long-form prosecution in Provincial Court and the new Bylaw Dispute Adjudication System (see Community Charter Part 8 [234]).

Bylaws and permit requirements will be ineffective unless landowners and permit holders know that a local government will act in response to violations that affect important ecosystem values, and unless the local government is consistent in its enforcement and that fees that are appropriate for the infraction and number of repeated infractions.

Because bylaw enforcement in many communities is complaint-driven, establishing a policy and resources for an environmental bylaw monitoring program is one way to ensure compliance with bylaws and permit conditions in areas of ecological significance.

Strategic enforcement not only promotes compliance with specific requirements, but it also reinforces the importance of compliance more generally in the community as a whole. The goal is to set precedents and create a culture of compliance. If a local government does not enforce bylaws strategically, this culture will deteriorate. [235]

The following are examples of bylaw contraventions and fees in use by local governments that pertain to the environment (other than tree protection bylaws). As noted above, the fees shown here are among the highest in the project area and they are still far too low to offer much deterrence.

Watercourse Protection Bylaw

- Fouling watercourse - $250
- Obstructing fish passage - $250

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[233] *Community Charter*, SBC 2003, CHAPTER 26, Part 8, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_00, accessed April 2026.

[234] Community Charter, Chapter 26, Part 8, https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_00 , accessed March 2025

[235] Curran et al, 2021, s.16.1, pg. 174.

- Enclosing watercourse - $250
- Obstructing a watercourse - $350
- Failure to implement/prepare sediment control plan - $250
- Discharge of cement - $250
- Failure to inspect, maintain or operate sediment control works - $250
- Failure to remediate discharge of prohibited substance - $500

Creeks Bylaw

- Foul, obstruct or impede a creek or drainage works - $500
- Construct, alter or demolish a structure in or near a creek - $500
- Cause or permit rock, gravel or soil to be placed in or removed from creek - $500
- Construct, alter or demolish a structure or place or remove material from creek protection area - $500
- Depositing fill in a floodway - $200

Park Regulation Bylaw

- Foul, pollute, obstruct or deposit matter in water, fountain, stream - $500
- Deposit or dump waste in a park $500
- Cut, damage or remove plant or tree - $500

Building Bylaw

- Construct without a permit - $300
- Fail to stop work - $500
- Fail to comply with condition of Permit - $300

Sewerage and Drainage Regulation Bylaw No. 5263, 2023

- Prohibited discharge, unauthorized discharge - $500

Soil Removal, Deposit, Blasting and Rock Breaking Bylaw

- Remove or deposit soil without a Soil Permit or contrary to conditions of the Soil Permit or bylaw - $500

Zoning Bylaw No. 4662, 2010

- Use Land Contrary to Bylaw

4.11.5 Incentives

Provincial legislation gives local governments legal options for providing landowners and developers with incentives to meet the goals of biodiversity protection and enhancing climate resilience. They can offer a property tax exemptions for riparian property secured with a conservation covenant on the title. They also have the power to allow density bonuses (see section 3.4.12) if a developer agrees to provide specific amenities, such as dedicating environmentally sensitive land in return for higher-density development on less sensitive lands.

Example incentive provisions include:

- Encourage voluntary placement of conservation covenants, dedication of land, or voluntary changes in zoning to protect sensitive ecosystems, by considering increased density on the

balance of the subject property, an amenity bonus for another property, trading land, purchasing land, offering grants-in aid, or granting tax exemptions.

- Exempt eligible riparian properties from property taxes if a property is subject to a conservation covenant registered under section 219 of the *Land Title A*ct.
- Allow the owner(s) of land affected by dedications for environmental protection to use the original site area in computing density and floor area ratios and minimum areas for development or subdivision purposes.
- Support conservation organizations to secure important habitat by means of acquisition, conservation covenants, or other stewardship agreements for conservation purposes.

Innovative Incentive example: Islands Trust NAPAEP

Innovative conservation tools can create new pathways for private landowners to contribute to biodiversity protection while receiving financial incentives. A notable example is the Islands Trust Natural Area Protection Tax Exemption Program (NAPTEP) in British Columbia. Administered jointly by the Islands Trust and the Islands Trust Conservancy, NAPTEP encourages landowners in the Islands Trust Area to voluntarily register conservation covenants on portions of their property and, in return, receive an annual 65 % property tax exemption on the protected portion of the land. This long-term incentive makes land protection more economically feasible for owners of ecologically valuable land, particularly sensitive ecosystems and wildlife habitats, without requiring outright sale or transfer of ownership.

[236][237].

The program's structure demonstrates how conservation and fiscal policy can align: landowners protect important natural values (such as old forests, wetlands, and species-at-risk habitat) through a legally binding covenant registered on title, and the Islands Trust Council issues a tax exemption certificate that applies annually to the covenanted area. While participation imposes permanent restrictions on future land use and requires careful legal and financial consideration, NAPTEP represents a flexible alternative incentive model to traditional market-based carbon projects or outright land acquisition. The program's success has inspired discussion around broader tax incentive frameworks for private land conservation in other jurisdictions across British Columbia[238].

4.11.6 Education

The least expensive and most administratively efficient way to achieve bylaw compliance is to avoid the need for enforcement by using public education, engaging stakeholders, and developing regulations through public processes. Involving the community in development of environmental regulations is an opportunity to improve awareness and appreciation of the values being protected.

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[236]Islands Trust, 2025, Natural Area Protection Tax Exemption Program (NAPTEP), Islands Trust, https://islandstrust.bc.ca/programs/natural-area-protection-tax-exemption-program/, accessed January 2026.

[237] Islands Trust Conservancy, 2025, Conservation Covenants and NAPTEP benefits, Islands Trust Conservancy, https://islandstrust.bc.ca/conservancy/protect-nature/conservation-covenants/, accessed January 2026.

[238] Union of BC Municipalities, 2025, Conservation Tax Incentive Program & NAPTEP model, UBCM Resolutions Database, https://www.ubcm.ca/convention-resolutions/resolutions/resolutions-database/conservation-tax-incentive-program, accessed January 2026.

Similarly, by increasing community and landowner awareness of the value and benefits of ecological protection and the implementation tools their local government is using, better traction and compliance with protection measures may be realized.

Local governments can also implement public and commercial education through interpretive signage, workshops, social media, and direct outreach targeted at land developers.

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Appendix B – Summary of existing policies

This is a summary of existing policies (legislation, regulations, best management practices, and guidelines) discussed in this toolkit.

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
First Nations - Legislation		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
Framework Agreement on First Nation Land Management Act	Under the FNLMA, the federal government transferred to First Nations the right to enact a **Land Code** and manage and pass laws related to reserve lands. A Land Code is a way for First Nations to independently manage reserve lands and resources. There are nine First Nations in the project area with operational Land Codes and nine that have Land Codes in development.	X	X	X	X	X	X
First Nations - Land Use Planning Tools		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
Tribal Parks / Indigenous Protected and Conserved Areas (IPCAs)	Tribal Parks or IPCAs are conservation areas that are owned and governed or co-governed by Indigenous communities, often reflecting Indigenous laws and legal orders. IPCAs are a way of recognizing that Indigenous Peoples have successfully governed and conserved the lands and resources in their territories since time immemorial. IPCAs were recognized in 2017 by the Government of Canada as a means of reaching Canada's Aichi Targets under the International Convention on Biological Diversity, and endorsed by the 2018 Indigenous Circle of Experts.	X	X	X	X	X	X
Forest Resource Plans	In a similar spirit to a Land Code, a Forest Resource Plan is generally developed to guide resource management across a Nation's territory in alignment with the community's principles and values.	X	X	X	X	X	X
Collaborative tables	A process where First Nations come together, often physically at a table, with representatives from other governments, organizations, and businesses that all have an interest in a place, with the goal of solving problems and resolving conflicts. An example is the	X	X	X	X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
	Collaborative Stewardship Framework (CSF), an initiative of the Province of BC that intends to enable the province and Indigenous groups to explore, through regional collaborative stewardship forums, shared responsibility for environmental stewardship and options for making resource management decisions in BC in ways that reflect both Indigenous and Western knowledge.						
Municipal Land Use Planning	In cases where reserve lands are situated adjacent to or surrounded by a municipality facing development or resource extraction pressures, working directly with the municipal government in a collaborative approach can be an effective way of navigating conflicting values and limited resources. This can help mitigate land management challenges that transcend municipal boundaries, such as transportation, business expansion, watershed management, and housing.	X	X	X	X	X	X
Land Trusts	Indigenous and non-indigenous land trusts are not for profit or charitable organisations that buy land to conserve ecosystems and enhance biodiversity. Increasingly, First Nations in areas dominated by privately owned land are viewing land trusts as a means of overcoming legal barriers and taking land back. This provides a way for them to engage in land-based practices, reclaim their territory, and build connectivity through the community and with relatives.	X	X	X	X	X	X
First Nations Woodland Licence	First Nations wishing to manage and have traditional uses of forests in their traditional territory may want to consider a First Nations Woodland Licence (FNWL). Unique to First Nations, an FNWL is an area-based, long term forest tenure that recognizes First Nations' asserted land and resource interests, including the protection of traditional use practices and the harvest and management of non-timber forest products. This allows First Nations to have an increased role in forest stewardship, protect traditional uses, and to	X	X	X			X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
	manage forest and land use in the area. It also improves First Nations' ability to secure investment and loans.						
Carbon offsetting	A carbon offset is an independently verified credit for net greenhouse gas reductions achieved by one party that can be used to compensate (or offset) the emissions of another party. Carbon offsets are typically measured in tonnes of carbon dioxide-equivalents (or tCO2e), transacted through carbon registries, and bought and sold for voluntary or regulated emissions reductions. Carbon offset projects can offer First Nations opportunities to earn carbon credits by carrying out activities that help offset atmospheric inputs that make climate change worse. Credits can then be sold in a carbon market as a source of revenue. In BC, land-based carbon credit projects are primarily in forests.	X		X			
Key Biodiversity Areas	Key Biodiversity Areas (KBAs) are areas that support rare and threatened species and ecosystems, and key natural processes. Establishing a KBA on a Traditional territory (or anywhere else) does not confer any greater protection than may already exist within the KBA, it can bring heightened awareness of the ecological values of the area and help create a case for greater protection.	X	X	X	X	X	X
Biosphere Regions	In Canada, biosphere regions are areas where communities are working to conserve biodiversity and implement the UN Sustainable Development Goals that Canada supports. Integrating Indigenous knowledge and Indigenous government involvement is embedded in biosphere region principles. Two of BC's three biosphere regions are in the project region: Átl'ka7tsem / Howe Sound Biosphere Region and Mount Arrowsmith Biosphere Region.	X	X	X	X	X	X
Federal Legislation and Regulations		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
Species at Risk Act (SARA)	Species at risk are plants and animals (including amphibians, birds, fish, fungi, invertebrates, mammals, plants, plant communities, and	X	X		X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
	reptiles) that are native to Canada and in danger of becoming extinct or extirpated from Canada. The purpose of SARA is to prevent these species from disappearing from Canada. Local governments do not have explicit legal responsibilities for the conservation of species at risk under SARA, but they must ensure they do not violate provincial and federal legislation, and should apply due diligence for actions and decisions that may facilitate violations by developers, permit applicants, or other parties.						
Migratory Birds Convention Act	Provides legal protections for migratory birds, including their eggs and their nests anywhere they are found, regardless of land ownership. Applies to bird species listed in Article I of the Migratory Bird Convention, including waterfowl, cranes, rails, shorebirds, and songbirds. Local governments need to comply with the protections in the MBCA and its regulations. Its protections can be used to inform local government bylaws and policy. Some municipalities have an explicit provision that a tree-cutting permit will not be issued for a tree that is host to birds protected under the MBCA.	X	X		X	X	X
Fisheries Act	Regulates fishing, and protects fish and fish habitat, whether they occur on federal, provincial, other public, or private land. It prohibits work, undertaking, or activity that results in serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. The Act defines "serious harm to fish" as the death of fish or the permanent alteration to, or destruction of, fish habitat, with fish habitat being spawning grounds and/or nursery, rearing, food supply and migration areas for fish. For local governments, *Fisheries Act* requirements are applied in BC through the Riparian Areas Protection Regulation (RAPR) under the provincial *Riparian Areas Protection Act*.		X		X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Net-Zero Emissions Accountability Act (NZEA)	Sets out targets for reducing greenhouse gas emissions 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050. While the NZEA does not require compliance on targets by other levels of government, it does ask them for input regarding establishing targets and objectives. Local governments have an important role to play in reducing emissions, and many have already aligned with Canada's 2050 net-zero target in their own climate related policies.	X	X	X	X	X	X
Federal Programs		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
2030 Nature Strategy	Builds on the existing initiatives under the Kunming-Montreal Global Biodiversity Framework (KMGBF) to halt biodiversity loss, promote ecosystem restoration, ensure sustainable use of natural resources, and enhance the equitable sharing of benefits from biodiversity, especially for Indigenous Peoples. Encourages biodiversity initiatives in all regions and sectors across the country. The strategy adopts a vision to be achieved by 2050 that serves as a guide for actions.	X	X	X	X	X	X
Provincial Legislation		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Declaration on the Rights of Indigenous Peoples Act	DRIPA affirms the application of the United Nations Declaration on the Rights of Indigenous Peoples to provincial law and requires provincial laws to align with UNDRIP. As DRIPA is enabling legislation, it means it does not explicitly make changes to regulatory frameworks, operational decision-making, or consultation requirements, but rather enables and requires other laws to make changes over time. The *Local Government Act* and Community Charter (see below) have yet to be amended to align with UNDRIP. However, given local governments' jurisdiction over land use, they may wish to proactively consider ways to incorporate UNDRIP into their operations, decisions, and relationships with Indigenous governments within their jurisdiction.	X	X	X	X	X	X
Local Government Act (LGA) and Community Charter	The provincial government delegates land use planning powers to local governments primarily through the *LGA* and the *Community Charter*. They empower local governments to make and enforce bylaws, set land use zoning and development permit areas, and (under the Land Title Act s. 219), place restrictive covenants that can result in protection of riparian areas and other areas of high carbon and biodiversity value. Under the *LGA* s. 488 (1)(a), local governments can designate EDPAs.	X	X	X	X	X	X
Climate Change Accountability Act	Sets out targets for reducing greenhouse gas emissions 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050. The province established sector-specific emission reduction targets for four sectors to help reach the 2030 target, including transportation, oil and gas, industry, and buildings and community. Local governments can particularly contribute to emissions through land use policies and decisions that aim to conserve and enhance high carbon ecosystems, such as forests and wetlands. See Local Government Climate Action Program (LGCAP) below, for more information.	X	X	X	X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Wildlife Act	Establishes licensing regimes and acceptable practices for hunting, trapping, and fishing in BC. Provides for the designation of extirpated, endangered, and threatened species. Protects active bird nests which may not be removed, injured, molested, or destroyed on public or private land. The nests of some species, including bald eagles, peregrine falcons, osprey, and heron are protected year-round, whether active or not.	X	X		X	X	X
Riparian Areas Protection Act and Regulation (RAPR)	RAPR applies to streams that support fish habitat. It requires certain areas of BC (all jurisdictions in the project area except Alberni-Clayoquot Regional District) to protect fish-bearing watercourses during residential, commercial, and industrial development. RAPR sets out processes for avoiding harmful alteration, disruption, or destruction of fish habitat by determining setbacks for development from watercourses and mitigating damage to riparian fish habitat. RAPR does not supersede any other relevant legislation that local governments or private landowners are subject to. For more information, see Riparian Areas Protection Regulation Technical Assessment Manual below.	X	X		X	X	X
Water Sustainability Act (WSA) and Regulation	Governs water use and protects stream health and aquatic environments. The WSA defines 'stream' as including water bodies such as lakes, ponds, rivers, creeks, springs, ravines, gulches, and wetlands with open standing water. The WSA enables the establishment of water objectives for a watershed, stream, aquifer or other specified area or environmental feature to sustain water quantity and quality for specific uses or to sustain aquatic ecosystems. It also includes a legal requirement to set aside enough water for the health of riparian areas and the aquatic environment.	X	X		X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Weed Control Act and Regulation	Applies to all lands in BC except federal lands. Imposes a duty on a land occupier to control designated noxious weeds "growing or located on the land and premises, and on any other property located on land and premises, occupied by that person." Schedule A of the regulation lists 39 provincial weeds. It also lists 27 regional weeds, none of which are known to occur in the project area as yet. Local governments can (1) adopt control of the species listed on Schedule A of the Weed Control Regulation; and (2) develop an invasive species program and/or bylaws under the LGA (for regional districts), or Community Charter (for municipalities).	X	X		X	X	X
Housing Statutes (Residential Development) Amendment Act (2023)	Brought into force under Bills 44 and 47 to address housing shortages. Bill 44 mandated local governments to amend their zoning bylaws to comply with new small-scale multi-unit housing (SSMUH) density requirements, essentially requiring local governments to rezone all single-family properties. The SSMUH does not supersede existing provincial legislation, such as the RAPR, or a EDPAs, but a local government cannot implement environmental protections that prevent SSMUH if there are no site conditions or objectives that would legitimately warrant those protections.	X	X		X	X	X
Provincial Programs		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
Local Government Climate Action Program (LGCAP)	The LGCAP is part of CleanBC, the provincial government's plan for lowering emissions by 40% by 2030. LGCAP provides local governments and Modern Treaty Nations with predictable and stable funding to allow for cost-effective, impactful, locally implemented climate action. LGCAP funding is available for initiatives that reduce GHG emissions and/or support adaptation and mitigate climate-related risks. Actions may include climate-related hazards; integrating climate change measures into policies, strategies and planning; improving education, raising awareness of	X	X	X	X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
	climate change causes and solutions; increasing human and institutional capacity with respect to climate change mitigation and adaptation; and impact reduction and early warning systems.						
Forest Planning Framework	Intended to establish clear outcomes for the management of forest resource values within defined areas. FLPs will replace Forest Stewardship Plans over the next several years, and bring high-level strategic land use planning direction to a specific forest management area to bridge the gap between strategic land use planning and operational/site-level planning. Local governments are not explicitly identified as FLP participants; however, they can benefit from involvement in the engagement process. They should consider how an FLP might affect land use and land acquisition decisions within and adjacent to their jurisdictions. This is important for the integrity of ecosystem connectivity and wildlife corridors, and high carbon ecosystems such as wetlands.	X	X	X	X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Private Managed Forest Land Program	Established in 2003 under the *Private Managed Forest Land Act* (PMFLA), under which landowners commit to manage their property for long-term forest production, including meeting legislated objectives for key public environmental values. Designation as PMFL is voluntary: the landowner applies to have the land designated and, if approved, must carry out any forestry activities in accordance with the requirements of the PMFLA and its regulations. The PMFLA restricts local government jurisdiction over PMFL. A local government may not adopt bylaws or issue permits that would directly or indirectly restrict forest management activities on the designated PMFL. Local governments may regulate designated land in other ways but need to consider how their land-use decisions might affect PMFL lands, and how activities on those lands might impinge on and impinge on decisions such as land acquisition for conservation, watershed management, carbon storage, and urban forest canopy retention and targets.	X	X	X	X	X	X
Key Best Management Practices		**LC**	**ESAs**	**TC**	**SAR & CI**	**EC**	**Hyd**
Best management practices (BMPs) are guidelines that help development projects meet necessary legislation, regulations and policies. For example, legislation might dictate that projects cannot harm a stream, while best management practices provide practical methods to avoid harming a stream. Developers and other professionals can rely on BMPs to help improve operations because they're based on science and they've been proven to work. They also help developers act as environmental stewards – completing projects on land or water in a way that doesn't interfere with living resources and their habitats.							
Natural resource best management practices	A comprehensive provincial website that provides several links to BMPs for certain species groups, ecosystem types, and geographic regions. At minimum, QEPs hired to provide environmental assessments should demonstrate their awareness of applicable provincial BMPs.	X	X		X	X	X

Policies / Tools	Details	Applicable atlas layers (see end of table for codes)					
Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia (2014)	Designed for use by local governments, the development community, landowners and environmental organizations as **a comprehensive guide to maintaining environmental values** during the development of urban and rural lands. Sets out program priorities of the Ministry of Forests, Lands and Natural Resource Operations, the Ministry of Environment, and other provincial and federal agencies, promoting ways to retain and create environmental function and resilience as communities grow. It features information on 'green' alternatives to standard urban development practices, riparian protection, climate change, waste management, the protection of Environmentally Valuable Resources, terms of reference for conducting biological inventories, checklists for streamlining review processes, and species and land use based Fact Sheets. Note that some information might be out of date (e.g., riparian)	X	X		X	X	X
Green Bylaws Toolkit for Protecting and Enhancing the Natural Environment and Green Infrastructure (2021)	Developed for use by land-use planners and decision-makers. A comprehensive resource that takes a practical approach, offering sample bylaw wording pertaining to ecosystem services and green infrastructure. Features case studies, topics of interest to local government, and deep consideration of ecosystem connectivity and the importance of restoring and linking ecologically valuable land. Reflects changes in legislation (except for Bills 44 & 47). Planners who are not familiar with this resource may wish to watch the "Green Bylaws Toolkit 101" webinar.	X	X		X	X	X
Natural Solutions Initiative: Regulatory Mechanisms Toolkit (2024)	Provides recommendations on ways to use and amend regulatory and non-regulatory tools to advance nature-based solutions.	X	X	X	X	X	X
Riparian Areas Protection Regulation Technical Assessment Manual	Provincial publication that provides guidance on the process, specifications for QEP assessments, and considerations for setbacks with respect to RAPR.	X	X		X	X	X

Codes used in the table:

LC = Land cover and land use
TC = terrestrial carbon
EC = Ecosystem connectivity
ESA = ecologically sensitive areas
SAR & CI = Species at risk, species of cultural interest
HYD = Hydrologically sensitive ecosystems

Appendix C – Example actions/policies for local government biodiversity strategies

Theme	Strategy statement	Adapted from	Indicator / target
General / multi-theme	Base decisions on sound science while incorporating local knowledge and expertise.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg 23	
	Manage biodiversity at a city-wide scale and engage neighbouring jurisdictions to build on existing networks of natural areas and biodiversity hotspots.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg 23	
	Develop an inventory of natural assets and develop a Natural Asset Management Plan (see section 4.10.2).	District of Saanich Biodiversity Conservation Strategy, 3.1, pg 51	Inventory completed by [date]
	Make restoring ecological function a priority over rigid interpretations of naturalness. Favour planting native species but consider appropriate non-native species to enhance biodiversity in urban areas.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg 23	Biodiversity consists of >75% native species
	Encourage "urban ecosystems" such as green roofs, rain gardens, and wildlflower meadows that have a mix of native and non-native species to enhance urban biodiversity and provide people with access to nature.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg 23	
	Incorporate climate projections such as increased summer drought, rising sea level, and more intense rainfall and storm events into all biodiversity projects such as tree planting and wetland restoration.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg 23	
	Improve development review and permitting processes, including the tree protection bylaw and other green policies to better protect and enhance biodiversity during development.	City of Vancouver Biodiversity Strategy, action 21, pg 37	Policies are vetted by a QEP or similarly experienced staff. Policies are integrated across all departments.

	Consider incentives to restore degraded habitat during re-development.	City of Surrey's Biodiversity Conservation Strategy , A-2.8 pg 84	Incentives are established and promoted. ## of hectares of habitat restored in [timeframe]
	Allocate resources to identify and deal with encroachments into [jurisdiction] owned natural lands, including naturalized right of ways and mandate their restoration.	District of Saanich Biodiversity Conservation Strategy, 3.2, pg 51	Resources are allocated. ## of hectares of natural lands by [timeframe]
	Implement an environmental development permit area or for the protection of the natural environment and ensure guidelines are clear and well-communicated.	District of Saanich Biodiversity Conservation Strategy, 3.12, pg 53	
	Monitor and measure performance and adapt actions accordingly. This requires establishing appropriate indicators and measuring against targets. Draw on ecological expertise to identify appropriate indicators and targets.	City of Vancouver Biodiversity Strategy, pg. 23.	The status of biodiversity and the success of biodiversity programs and projects are measured using monitoring and other methods.
	Adopt and implement an Urban Forest Strategy.	District of Saanich Biodiversity Conservation Strategy, 3.8 pg 52	Urban Forest Strategy in implementation within 2 years of adoption.
First Nations	Build partnerships with First Nations to collaborate on biodiversity management.	City of Vancouver Biodiversity Strategy, action 25, pg 39	Collaborative biodiversity tables with local First Nations established and functioning.
	Support local Indigenous peoples in spatial knowledge acquisition and organization on their terms.	District of Saanich Biodiversity Conservation Strategy, 1.7 pg 46	
Land cover and land use	Develop a long-term land cover monitoring program to reflect the state of biodiversity in the community.	District of Saanich Biodiversity Conservation Strategy, 1.6 pg 46	

	Develop incentives to increase density and encourage alternative development approaches (e.g. cluster housing, Conservation Subdivision Design) to retain natural areas and enhance buffer zones adjacent to green infrastructure, particularly inside the urban containment boundary.	City of Surrey's Biodiversity Conservation Strategy , A-2.6 pg 84 District of Saanich Biodiversity Conservation Strategy, 3.7, pg 52	Density incentives are established and promoted. ## of hectares of natural area protected through alternative development approaches.
	Establish forest canopy baseline and cover targets for different land uses that will contribute towards the community goal of ##% canopy cover.	City of Surrey's Biodiversity Conservation Strategy , A-2.9 pg 85	Canopy cover baseline and targets established.
	Develop / support a tree incentive program to increase tree cover on private land.	City of Surrey's Biodiversity Conservation Strategy , A-2.11 pg 85	# of private land owners utilize the incentive program by [date] Tree canopy or number of trees on private land increased by X% by [date]
	Develop / update the Tree Bylaw to enhance protection and replacement criteria for all healthy single stemmed trees with a diameter greater than 100 cm measured at 1.4 m above ground.	City of Surrey's Biodiversity Conservation Strategy , A-2.12 pg 85	Tree Bylaw created / updated with specific targets
	Develop or update ground-truthed terrestrial ecosystem mapping (TEM) that identify disturbance levels.	District of Saanich Biodiversity Conservation Strategy, 1.4 pg 46	TEM updated/completed by [date]
	Review and update existing data capture guidelines and develop a structured procedure for evaluating and submitting data to be included as part of terrestrial ecosystem mapping.	District of Saanich Biodiversity Conservation Strategy, 1.2.2 pg 45	TEM data guidelines updated by [date] and widely shared.
Environmentally sensitive areas	Establish an EDPA to protect the ecological integrity of the [Green Infrastructure Network]. The DPA will include all GIN areas (hubs, sites and corridors) and extend 50 m from the edge of GIN. All properties including all or a portion of the EDPA will be subject to the DPA guidelines.	City of Surrey's Biodiversity Conservation Strategy , A-2.4 pg 84	

	Require that any development within the EDPA requires a QEP to assess and prescribe management that will meet the objectives of the Biodiversity Strategy.	City of Surrey's Biodiversity Conservation Strategy , A-2.4 pg 84	
	Review all development applications to ensure objectives of the Sensitive Ecosystem Development Permit Area are met.	City of Surrey's Biodiversity Conservation Strategy , A-2.1 pg 84	
	Refine terrestrial ecosystem and ESA polygon boundaries using current criteria and through ground-truthing and high resolution ortho-imagery.	District of Saanich Biodiversity Conservation Strategy, 1.2.1 pg 45	
	Enforce appropriate timing windows established by the province for fish and wildlife during development and building. Avoid tree clearing during bird nesting season. Ensure work in and around watercourses respects fish timing windows developed by the province.	City of Surrey's Biodiversity Conservation Strategy , A-2.5 pg 84	Wildlife and fish windows are understood, identified, and respected.
	Require site inspections within 3-5 years of restoration as a condition of streamside development permits. Collect bonding to enforce this inspection period. Update bonding timelines to match inspection timelines and restoration projects.	District of Saanich Biodiversity Conservation Strategy, 3.17 pg 54	Compliance with permit conditions requiring restoration is >90% Success of restoration after 5 years is >90%
	Require that QEPs assess and confirm the compliance of restoration sites.	District of Saanich Biodiversity Conservation Strategy, 3.16 pg 54	
	Develop a spatial inventory of invasive plant species growing on public lands and establish a management program.	District of Saanich Biodiversity Conservation Strategy, 1.14 pg 48 Vancouver Board of Parks & Rec Biodiversity Strategy 2-1, pg. 33	Invasive plant management program for public lands established by [date].
Hydroriparian (including marine)	Ensure the Zoning Bylaw is consistent with the Streamside Development Permit Area (SDPA) to better protect streams and the marine shoreline.	District of Saanich Biodiversity Conservation Strategy, 3.13.3 pg 53	

	Clarify all watercourses are included in the SDPA that meet the definition, including unmapped watercourses.	District of Saanich Biodiversity Conservation Strategy, 3.13.2 pg 53	
	Increase the minimum riparian setback enforced in the Zoning Bylaw to 10 m for watercourses and 2 m for ditches to better align with minimum RAPR SPEA sizes. Apply to both fish-bearing and non-fish-bearing streams.	District of Saanich Biodiversity Conservation Strategy, 3.13.4 pg 53	
	Establish a Riparian Development Permit Area (DPA) for all Class A, A(0) and B watercourses outside of the ALR to protect biodiversity, water quality and slope stability.	City of Surrey's Biodiversity Conservation Strategy, A-2.2 pg 84	Width of DPA will include the watercourse, riparian area and extend to 50 m from the top of bank.
	Enforce minimum Streamside Protection and Enhancement Areas setbacks from top of bank for Class A, A(O) and B watercourses; disturbed areas within SPEAs must be restored as a condition of development.	City of Surrey's Biodiversity Conservation Strategy, A-2.3 pg 84	
	All properties, including all or a portion of the Riparian DPA, are subject to the DPA guidelines. Any development within the Riparian DPA requires a QEP to assess and prescribe management that will meet the objectives of the Biodiversity Conservation Strategy.	City of Surrey's Biodiversity Conservation Strategy, A-2.2 pg 84	
	Accurately map the locations of connected and disconnected wetland systems and use this information in planning and development permit application reviews. Make this information available via the GIS portal.	District of Saanich Biodiversity Conservation Strategy, 1.10 pg 47	
	Update the mapping of marine-influenced ecosystems and make this available via the GIS portal.	District of Saanich Biodiversity Conservation Strategy, 1.11 pg 47	
Ecosystem connectivity	Implement measures to improve wildlife crossings within the green infrastructure network to facilitate movement and reduce traffic mortality.	City of Surrey's Biodiversity Conservation Strategy, A-2.7pg 84	

	Protect land in the Biodiversity Habitat Network through working with private landowners using a variety of existing tools such as covenants, and through land acquisition.	District of Saanich Biodiversity Conservation Strategy, pg 49	
	Protect land in the Biodiversity Habitat Network through priority invasive species removal and ecosystem restoration on public land.	District of Saanich Biodiversity Conservation Strategy, 2.1.3, pg 49	
	Identify missing components adjacent to the Biodiversity Habitat Network that could be restored to improve the network.	District of Saanich Biodiversity Conservation Strategy, 2.3, pg 50	
	Add the Biodiversity Habitat Network to the Park Acquisition Plan and identify priority lands for acquisition.	District of Saanich Biodiversity Conservation Strategy, 2.4, pg 50	
	Assess unused rights-of-way within the Urban Containment Boundary for restoration potential and/or potential to rezone to natural area parks.	District of Saanich Biodiversity Conservation Strategy, 2.6 & 2.7, pg 50 Vancouver Board of Parks & Rec Biodiversity Strategy, 1-1, pg. 31	
Species at risk	Update and map the known locations of species and ecological communities at risk and provide this information to the BC Conservation Data Centre.	District of Saanich Biodiversity Conservation Strategy, 1.12, pg 48	
	Work with provincial government and stewardship groups to help restore ecologically important native species.	Vancouver Board of Parks & Rec Biodiversity Strategy, 1-2, pg. 31	
	Identify opportunities to rezone lands containing, in whole or in part, critical habitat for species at risk to natural area parks.		
	Ensure critical habitat for species at risk that occurs in natural areas is protected from inappropriate use and disturbance.		

Nature-based solutions to climate change	Incorporate smaller natural areas, including meadows, rain gardens, and wetlands into new and redeveloping parks, streets, and community gardens to augment existing natural assets and mitigate climate change impacts.	Vancouver Board of Parks & Rec Biodiversity Strategy, 2-1, pg. 33	
	Recognize backyard gardens, neighbourhood parks, green roofs, and other urban habitats as ways to sustain biodiversity and support climate resilience.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg. 23	
	Allow natural processes such as forest succession, windthrow, and beaver-caused flooding, along with natural variability and ecological complexity in and near natural areas to support climate resilience and ecosystem health.	Vancouver Board of Parks & Rec Biodiversity Strategy, pg. 23	Healthy ecosystems are sustained by natural processes.

Appendix D – Example actions/policies for local government urban forest strategies

Theme	Strategy statement	Adapted from	Indicators / targets
General / multi-theme	Collaborate and coordinate across departments and agencies on a project-specific basis towards achievement of the canopy targets, goals and objectives.	District of Saanich Urban Forest Strategy (2024-2034) , pg 96.	
	Identify and implement tree planting targets for public land that support a 30% canopy cover target.	City of Surrey Urban Forest Management Strategy, pg 64.	
	For climate and disease resilience, plant a diversity of species, preferably native to our region that are pest resistant and adapted to a range of climate conditions, particularly temperature and moisture extremes.	City of Courtenay Urban Forest Strategy 2019 – 2050, pg. 49. District of West Vancouver's Urban Forest Management Plan , pg 53.	No more than 5% of any single tree species and no more than 15% of any tree genus. No more than 10% of any one species, no more than 20% of any genus, no more than 30% of any one family.
	Through policy, develop canopy cover targets for each land use type to support an equitable distribution of the urban forest	City of Surrey Urban Forest Management Strategy , pg 63 District of Saanich Urban Forest Strategy (2024-2034), pg 83.	Canopy cover targets established
	Choose species with a useful life expectancy and budget for young tree mortality.	City of Courtenay Urban Forest Strategy 2019 – 2050, pg. 81	>30 years in 90% of the tree population and <3.5% young tree mortality.
	Prioritize protection of significant trees and forest stands on both public and private lands.	City of Courtenay Urban Forest Strategy 2019 – 2050, pg. 86	

	On public lands, formalize urban forest asset management and protection in corporate policies and systems. Ensure municipality-wide policies and practices are integrated to protect public and priority private trees, and the policies are consistently enforced.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 86.	All urban forest assets are inventoried and systems in place for their conservation and management.
	Plant ### (e.g., 300) trees per year on public land (in addition to replacement and restoration plantings) and work with residents to plant approximately 850 trees per year on private land.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 89.	### Trees planted per year.
	Consider planting western North American species that do well in regions with similar climate conditions to those projected for our region in 30 - 50 years (e.g., see Climate Projections for the Capital Regional District [239] or General Climate Projections for Metro Vancouver [240]).	City of Courtenay Urban Forest Strategy 2019 – 2050 , pp 81 & 89. District of Saanich Urban Forest Strategy (2024-2034) , pg 95 City of Vancouver Urban Forest Strategy , pg 45	90% of species in the inventory are suitable for future climate.
	In natural areas, maintain natural forest extent and enhance natural forest habitat quality to Increase native biodiversity and ecosystem resilience.	District of Saanich Urban Forest Strategy (2024-2034) , pg 95	Natural forest cover of all types ≥ 3,700 ha. 40-year planting target of >50,000 new (non-replacement) trees, seedlings, and understorey shrubs by 2064 in natural areas on public property.

[239] Pacific Climate Impacts Consortium, 2024, Climate Projections for the Capital Region, report prepared for the CRD, https://www.pacificclimate.org/sites/default/files/publications/ClimateProjectionsCapitalRegion2024.pdf, accessed March 2025.

[240] Pacific Climate Impacts Consortium, no date, Climate Projections for Metro Vancouver, https://metrovancouver.org/services/air-quality-climate-action/Documents/climate-projections-for-metro-vancouver-2016.pdf#page=13&zoom=100,0,0, accessed March 2025.

	Set neighbourhood tree canopy goals in consultation with the community to identify expectations and specificity regarding protection, character and function of the urban forest.	City of Courtenay Urban Forest Strategy 2019 – 2050	
	Establish forums for interdepartmental, interjurisdictional and interagency communication to continuously improve tree management protocols and clarify tree management expectations across public and private lands.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 85	
	Develop policy for retaining soil and growing space for trees on private property in coordination with other Planning policy updates and sustainable site design goals	City of Vancouver Urban Forest Strategy , pg 44	
	Control invasive species that degrade forest ecosystems.	City of Vancouver Urban Forest Strategy, pg 45	
First Nations	Collaborate with Indigenous communities to reflect their values and caring for lands and waters in [municipality's] urban forestry program	District of Saanich Urban Forest Strategy (2024-2034) , pg 88.	
	Invite engagement with Indigenous knowledge keepers to inform the approach to urban forestry initiatives and natural areas management.	District of Saanich Urban Forest Strategy (2024-2034) , pg 91. District of West Vancouver's Urban Forest Management Plan , pg 55. City of Vancouver Urban Forest Strategy , pg 47	
	Allocate funding to support Indigenous roles and partnerships and explore opportunities to expand Indigenous involvement in urban forestry initiatives.	District of Saanich Urban Forest Strategy (2024-2034) , pg 88.	
Land cover & land use	Regularly update urban forest data and technology and revise key planning and policy documents to respond to changes in land use.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 83	

	Monitor canopy cover every two years using satellite imagery, supplementing this with LiDAR data at least every five years. Assess other accurate evaluation methods as technology advances.	District of West Vancouver's Urban Forest Management Plan , pg 54.	
	Require a minimum density of trees per hectare post-development to be achieved with retained healthy trees, new trees or replacement trees.		
	Prioritize tree retention and planting in public areas with low canopy and/or low tree equity scores.	District of Saanich Urban Forest Strategy (2024-2034) , pg 84	
	Develop forest canopy targets by land use type or neighbourhood, in coordination with other planning policy updates and sustainable site design goals.	District of Saanich Urban Forest Strategy (2024-2034) , pg 92.	
	Increase canopy cover in conjunction with green infrastructure initiatives to improve rainfall interception and infiltration.	City of Vancouver Urban Forest Strategy , pg 45.	
Environmentally sensitive areas	Ensure tree replacement within ESAs require that replacement ratios meet or exceed Provincial Planting Criteria	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 85	
	Update the Tree Bylaw and Environmental Development Permit Areas to require planting only native and /or climate-suitable species as replacement trees in Environmentally Sensitive Areas.	District of West Vancouver's Urban Forest Management Plan , pg 55.	
	Enhance forest ecosystem components in parks such as understorey vegetation to support birds and other biodiversity.	City of Vancouver Urban Forest Strategy , pg 45	
	Where appropriate, retain dead or dying trees and downed wood to sustain forest ecosystems and biodiversity.	City of Vancouver Urban Forest Strategy , pg 45	
Hydroriparian (including marine)	Maintain hydrological pathways to support forest patches through management initiatives or bylaw changes that affect rainwater infrastructure.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 86.	

Ecosystem connectivity	Use land acquisition or regulation to enhance protection of significant tree stands and corridors.	City of Courtenay Urban Forest Strategy 2019 – 2050 , pg 86.	
	Develop and implement a 5-year plan for natural forest restoration on public lands that considers: • Site prioritization within or adjacent to a Biodiversity Habitat Network. • Representation of CDF forest types and ecosystems,	District of Saanich Urban Forest Strategy (2024-2034) , pg 86	
Species at risk	Plant trees to enhance bird and pollinator populations, including expanded use of native trees in park and street tree planting.	City of Vancouver Urban Forest Strategy , pg 45	
	Meet or exceed legal requirements to protect nesting birds and other wildlife during urban forest management activities.	City of Vancouver Urban Forest Strategy , pg 45	
Nature-based solutions to climate change	Aim for density in canopy cover and trees per hectare to account for mortality and improved heat mitigation over time.	City of Courtenay Urban Forest Strategy 2019 – 2050	35-40% canopy cover and 100-120 trees per hectare per block.
	Increase canopy cover in conjunction with green infrastructure initiatives to improve rainfall interception and infiltration.	City of Vancouver Urban Forest Strategy , pg 45	
	Increase tree planting to create cool streets and parks where vulnerable populations are at risk from urban heat.	City of Vancouver Urban Forest Strategy , pg 45	

Appendix E – Example actions/policies for local government climate strategies

Theme	Strategy statement	Adapted from	Indicators / targets
Multi-theme	Stewardship tools will be developed for private land owners to adapt to and mitigate climate change by expanding on existing programs, such as Naturescaping, recommended plant lists, and invasive species management.	District of Saanich Climate Plan , pg 79.	
	Urban forests will be protected and expanded in the long term through measures such as: • establishing / updating canopy cover measurement • creating a tree inventory • strengthening protections for existing trees on private and public lands • developing an Urban Forest Reserve Fund dedicated to enhancing the urban forest through such actions as planting trees and acquiring lands specifically for tree planting.	District of Saanich Climate Plan, pg 79.	
	Develop / implement a Biodiversity Conservation Strategy to provide direction and strategies to increase ecosystem resilience and reduce impacts to biodiversity from climate change.	District of Saanich Climate Plan , pg 79.	
	Natural areas will be expanded, connected and restored through a variety of strategies that will ensure their permanent protection and management to maximize ecosystem services and resilience, biodiversity and carbon sequestration potential.	District of Saanich Climate Plan , pg 80.	Carbon sequestration increases by # through land protection and restoration.
	Determine the value of natural assets to services (e.g., storm-water management, pollination services, clean air, infrastructure cooling) and include in asset management and services planning.	District of Saanich Climate Plan , pg 80.	

	Develop a land acquisition and protection strategy to support delivery of key goals and services required for climate mitigation and adaptation (e.g., sequestration, drainage, flooding, biodiversity).	District of Saanich Climate Plan , pg 80.	
	Plant climate-resilient tree species.	City of Nanaimo Climate Change Resilience Strategy , pg 23.	## climate appropriate trees planted by [date]
	Develop and complete an urban forest inventory and establish / update the Urban Forest Management Strategy using future climate projections.	City of Nanaimo Climate Change Resilience Strategy , pg 23.	
	Conduct park condition assessments in all parks and adaptation measures developed to address climate impact risks (e.g. drought stress, heat events, wildfire smoke, storm damage, flooding).	City of Nanaimo Climate Change Resilience Strategy , pg 23.	
	Develop a climate adaptation assessment checklist for rezoning and development permits.	City of Nanaimo Climate Change Resilience Strategy , pg 29.	
First Nations	Work with neighbouring First Nations to support climate adaptation initiatives that conserve and enhance habitat and protect property within the watershed.	City of Nanaimo Climate Change Resilience Strategy , pg 33.	
	Work with local First Nations to conduct mapping and socio-cultural and ecological impact assessments of climate change on traditional food systems and undertake habitat restoration	City of Colwood Climate Change Adaptation Strategies, pp 27 & 28.	Emissions reductions associated with habitat restoration.
Land cover & land use	Work with partners to explore carbon dioxide removal measures, such as restoration of coastal ecosystems and afforestation of non-forested areas.	District of Saanich Climate Plan, pg 80.	
	Create / update Hazard Land and Steep Slope Development Permit Area Guidelines in the OCP and other pertinent bylaws to require geotechnical reports for new construction in areas at high risk of flooding and landslides.	City of Nanaimo Climate Change Resilience Strategy , pg 29.	

	Apply a climate adaptation lens to the natural hazard, steep slope and environmentally sensitive DPAs during the OCP refresh.	City of Nanaimo Climate Change Resilience Strategy , pg 29.	
	Identify hazardous lands and properties at risk from coastal flooding, sea level rise and landslide risk, and advocate to the province for support in purchasing these lands as part of the City's long-term property management strategy.	City of Nanaimo Climate Change Resilience Strategy , pg 30.	
	Increase the proportion of native ecosystems in parks and open spaces system and restore native ecosystem areas that are currently degraded.	City of Colwood Climate Change Adaptation Strategies, pg 29.	Natural and restored ecosystems provide more ecosystem services such as water filtration and absorption, carbon sequestration/storage, biodiversity, and soil stabilization.
Hydroriparian (including marine)	Prepare for the impacts of rising sea level and associated erosion and coastal flood risk. Develop a green shores strategy to help protect waterfront lands from flooding risk, while also protecting and restoring habitats.	City of Nanaimo Climate Change Resilience Strategy , pg 21	
	Enhance watershed storage and impoundment to build resilience for urban streams within catchment areas for fish habitat use during low summer flows.	City of Nanaimo Climate Change Resilience Strategy , pg 24.	
	Design and install green infrastructure (e.g. bioswales, bio-ponds, retention tanks) that will improve water quality and potentially provide low summer flow into fish bearing streams	City of Nanaimo Climate Change Resilience Strategy , pg 24.	
	Coordinate with the RDN to complete a detailed watercourse habitat health assessment for urban watercourses within the city, including biodiversity maintenance and invasive species control targets.	City of Nanaimo Climate Change Resilience Strategy , pg 24.	

	Develop a sea level rise DPA with guidelines for new development/renovation and infrastructure placement in areas at risk of coastal flooding up to 2100.	City of Nanaimo Climate Change Resilience Strategy, pg 29.	DPAs adopted and guidelines for areas at coastal risk completed (% or #)
Ecosystem connectivity	Use mapping tools to identify currently protected areas, sensitive ecosystems, biodiversity hotspots, SAR habitat, and locations to implement corridors for habitat connectivity. Identify network linkages to promote habitat connectivity.	City of Colwood Climate Change Adaptation Strategies, pg 33.	
Nature-based solutions to climate change	Grow the urban forest by planting #### new trees of diverse species by 20## and increase its resilience to a changing climate through suitable tree selection and management practices.	District of Saanich Climate Plan, pg 79.	