Local Government Tools Supporting Species and Ecosystems at Risk

A Resource Guide for the South Coast of British Columbia

South Coast Conservation Program

South Coast Conservation Program
www.sccp.ca

The SCCP is a multi-partner conservation program helping facilitate projects and activities to protect and restore species and ecological communities at risk on the South Coast of B.C.

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Cover photos: Pamela Zevit, Denis Knopp, Paul berlinguette, and Angus Wilson. From left to right: Pacific Water Shrew, Red-legged Frog, Marbled Murrelets.

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The South Coast Conservation Program

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Table of Contents

List of Tables

Cheakamus Lake - Photo by Pamela Zevit

Part 1. Introduction and Background

Part 2. Local Government Guide to Supporting Species and Ecosystems at Risk

Appendices

Part 1. Introduction and Background

Painted Turtle - Photo by Chris Lee

1.1 Project Overview and Goals

This document is designed as a resource guide for local governments, decision-makers and those involved in land use stewardship and in the development or implementation of actions that ffect species and ecological communities at risk (SEAR). The guide was developed as part of the learning outcomes from the SCCP's 2013 initiative "A Pilot Partnership for Integrating Species and Ecosystems at Risk into Sustainable Land Use." The project focused on the regional implementation of the B.C. Government's Species and Ecosystems at Risk and Local Governments Working Group (SEAR LGWG) recommendations[1].

The South Coast Conservation Program (SCCP) works to fill coordination gaps between various levels of government, conservation groups, land use interests and local communities to conserve species and ecological communities at risk. Local governments are well positioned to address many of the challenges facing SEAR conservation and assisting them to incorporate those considerations in land use planning is a vital way the SCCP can address those gaps. The specific goals of this project were:

1. Provide local governments with a platform for discussing the challenges, opportunities and solutions for integrating SEAR into land use planning;
2. Identify gaps and priorities in SEAR planning on the South Coast and to take steps towards action; and
3. Address the information gaps identified during the dialogue sessions (e.g., the need to amass as many relevant resources as possible in one convenient location).

SEAR related work is continually evolving and this document brings together a portion of the current information and examples of how local governments in the South Coast are dealing with these issues. The document provides links to more detailed and specific information where relevant. Most notably, the Green Bylaws Tool Kit provides an in depth analysis of tools and concepts related to the conservation of sensitive ecosystems and green infrastructure, and is an invaluable resource.

[1] SCCP Dialogue session proceedings can be found on the SCCP website at: http://sccp.ca/projects/species-risk-and-local-governments. For further information on The Provincial SEAR & LG Working Group see: http://www.env.gov.bc.ca/wld/searl_gwg/index.html. The provincial SEAR LGWG discussion paper is available at: http://www.env.gov.bc.ca/wld/documents/SAR%20Paper%20January%202011%20FINAL.pdf

1.2 Species and Ecosystems at Risk (SEAR) in the South Coast of BC

The South Coast Region of BC[2] supports some of the highest biodiversity in Canada It is also one of the most populated areas, with over 2 million people currently calling it home. Over 100 provincially listed ecosystems and more than 260 provincially and/or federally listed species of conservation concern also share this region. Three species are already considered extirpated from the South Coast. Some species and ecosystems are found nowhere else in Canada, and some nowhere else in the world!

Species at risk, as defined by the federal government, is a term used to describe any wildlife species (plant, animal, or other organism) that is at risk of extinction in Canada. In the United States the term used is endangered species. Species are often 'at risk' as a result of human activities that pose a threat to their survival (see Section 1.3). While extinction is a natural evolutionary process, today extinctions are occurring globally at a rate never seen before.

Species at risk are identified through federal and provincial species status assessment processes. To determine if a species is at risk of extinction a body of independent scientists and wildlife specialists assess the current information, data, trends, and threats to each species. The BC Ministry of Environment Conservation Data Centre (BCCDC)[3] provides assessments provincially. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC)[4] is the body that provides assessments federally. The degree of risk for extinction varies for different species and thus categories of Extinct, Extirpated, Endangered, Threatened, Species of Concern, or Not at Risk are assigned. See Table 1 for definitions of provincial and federal species rankings.

Ecosystems at risk is a term used by the BCCDC to describe the list of ecological communities assessed as endangered, threatened or vulnerable with respect to continued existence in BC. Ecological Communities (formerly known as plant communities) include sensitive ecosystems (SEI)[5] and ecosystems of the provincial Biogeoclimatic Ecosystem Classification (BEC Classification Program).[6] Ecosystems at risk are identified through provincial status assessment processes of the BCCDC. Vegetation ecology specialists assess current occurrence, trends, and threats to each ecosystem to determine the degree of risk. Ecosystems at Risk are legally designated under the Forest and Range Practices Act Identified Wildlife Management Strategy (FRPA IWMS)[7]. There are five ecological communities listed in four Identified Wildlife Accounts for the South Coast region.

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[2] The South Coast eco-region is comprised of five regional districts: Fraser Valley, Metro Vancouver, Powell River, Sunshine Coast, and Squamish-Lillooet.
[3] BC Ministry of Environment Conservation Data Centre, Ecosystem Branch <http://www.env.gov.bc.ca/cdc/>
[4] Committee on the Status of Endangered Wildlife in Canada <http://www.cosewic.gc.ca/eng/sct5/index_e.cfm>
[5] BC Ministry of Environment, Sensitive Ecosystems Inventories <http://www.env.gov.bc.ca/sei/>
[6] BC Ministry of Forest and Range, Biogeoclimatic Ecosystem Classification Program <http://www.for.gov.bc.ca/hre/becweb/>
[7] Forest and Range Practices Act and Identified Wildlife Management Strategy <http://www.for.gov.bc.ca/code/>< http://www.env.gov.bc.ca/wld/frpa/iwms/>

PART 1. INTRODUCTION AND BACKGROUND

Table 1. Species and Ecosystems at Risk Assessment Definitions. Summary of some of the activities that can have negative impacts on species at risk.

Term	Definition
Federal Definitions[8] (COSEWIC and the Species At Risk Act [SARA] use same rankings. COSEWIC is not a legal listing; the legal list is under SARA)	
Extinct	A species that no longer exists.
Extirpated	A species that no longer exists in its native habitat, but may occur elsewhere.
Endangered	A species facing imminent extinction or extirpation. *
Threatened	A species that is likely to become endangered if limiting factors such as diminishing population sizes, isolated geographic distribution, and habitat threats are not reversed. *
Special Concern	A species of special concern because of characteristics that make it is particularly sensitive to human activities or natural events.
Not at Risk	A species that has been evaluated and found to be not at risk.
Data Deficient	A species for which there is insufficient scientific information to support status designation.
Provincial Definitions[9]	
Endangered Species (legal list under BC Wildlife Act)	A species of wildlife that is threatened with imminent extinction throughout all or a significant portion of its range in British Columbia because of the action of humans, not including controlled alien species. Only 3 species are legally listed as endangered under the BC Wildlife Act: Vancouver Island Marmot, American White Pelican and Burrowing Owl.
Threatened Species (legal list under BC Wildlife Act)	A species of wildlife that is likely to become endangered in British Columbia if the factors affecting its vulnerability are not reversed, not including controlled alien species. Only 1 species is legally listed as threatened under the BC Wildlife Act: Sea Otter.
Forest and Range Practices Act (Identified Wildlife Management Strategy)	B.C. designates both species and ecological communities under FRPA. There are 62 animal species, 2 plant species and 17 ecological communities provincially designated.
BC Ministry of Environment Conservation Data Centre Red list (not a legal list)	The list of ecological communities and indigenous species and subspecies that are extirpated, endangered or threatened in BC. They may or may not be considered candidates for provincial legal designations under the Wildlife Act or under FRPA. There are 98 species and 54 ecological communities on the CDC's red list in the South Coast. Although no species are actually listed as endangered or threatened under the Wildlife Act, individual vertebrates receive protection under the Wildlife Act (see above).
BC Ministry of Environment Conservation Data Centre Blue list (not a legal list)	The list of ecological communities and indigenous species and subspecies of special concern in BC. There are 177 species and 50 ecological communities blue-listed in the South Coast.

[8] Government of Canada Environment Canada. 2014. <http://www.sararegistry.gc.ca/about/glossary/default_e.cfm>
[9] Government of British Columbia Ministry of Environment. Ecosystems Branch. 2014. <http://www.env.gov.bc.ca/atrisk/index.html>

It is important to note that while species may receive assessment and be considered 'at risk' by assessment bodies, they must be legally listed in provincial (BC Wildlife Act, RSBC 1996) and federal (Species at Risk Act, 2002) legislation in order to receive the protection those Acts confer. The BC Wildlife Act does provide protection for all vertebrates regardless of at risk status, but in order to receive provincial status as SAR and the additional protection this confers, species must be assessed and listed within the Act. There are only 4 species that are legally listed as SAR in BC under the Wildlife Act. A more detailed explanation of these Acts is provided in section 1.5. Once a species is federally listed (i.e. schedule 1, threatened or endangered) status reports, recovery strategies and action plans, which outline the conditions and actions necessary for species management, recovery or survival, must be created by the federal government within set timelines (for action plans this is stated in the recovery strategy).

The provincial government has been actively engaged in recovery planning for species at risk since the 1980s. Of the approximately 220 SARA-listed species in BC, there are recovery plans for over 140 species.[10] Note that the provincial government views the information in recovery planning documents as advice to inform decisions. The federal and provincial governments work collaboratively under the "CANADA-BRITISH COLUMBIA AGREEMENT ON SPECIES AT RISK". The purpose of this agreement is to ensure a coordinated and focused approach to the delivery of species at risk protection and recovery through legislation, policies, and operational procedures in British Columbia.

It is important to keep in mind that species at risk only represent a portion of all plant and animal species on the south coast, many of which have yet to be assessed due to capacity issues of resource managers and regulatory authorities.

Additional Resources

BC Conservation Data Centre: http://www.env.gov.bc.ca/cdc/
COSEWIC: http://www.cosewic.gc.ca/eng/sct5/index_e.cfm
Canada's Species at Risk Public Registry: http://www.sararegistry.gc.ca/sar/index/default_e.cfm

1.3 Human Activities and Their Impact on SEAR

Across the South Coast, BC, Canada and globally many species have experienced drastic declines, mainly attributed to human activities. Impacts can be direct, like the destruction of habitat for development, or the killing of an organism through pesticide use, or they can be indirect such as the introduction of exotic species

[10] While 69 species have been assessed as endangered or threatened by COSEWIC, in the South Coast only 59 have been SARA listed and only 20 have federal Recovery Strategies detailing Critical Habitat and Recovery Actions. No ecosystems at risk have been designated by federal legislation. Provincial legislation includes ecosystems under the Forest and Range Practices Act.

that out-compete native species or prey on them.

The amount and type of impact on species and ecosystems at risk varies greatly between species and ecosystems, and geography. Four key threats have been identified as contributing to the extinction or loss of species and ecosystems at risk globally; **habitat loss and degradation, pollution, over exploitation and the introduction of exotic invasive species.**[11]

Local governments are responsible for several land use activities and decisions that can have direct or indirect negative impacts on the natural environment and in turn SEAR and their habitats. Table 2 is derived from "A Guide to Municipal Tools Supporting Wildlife Species and Habitats in Nova Scotia" and provides a useful summary of some of the activities that can have negative impacts on species and ecosystems at risk.

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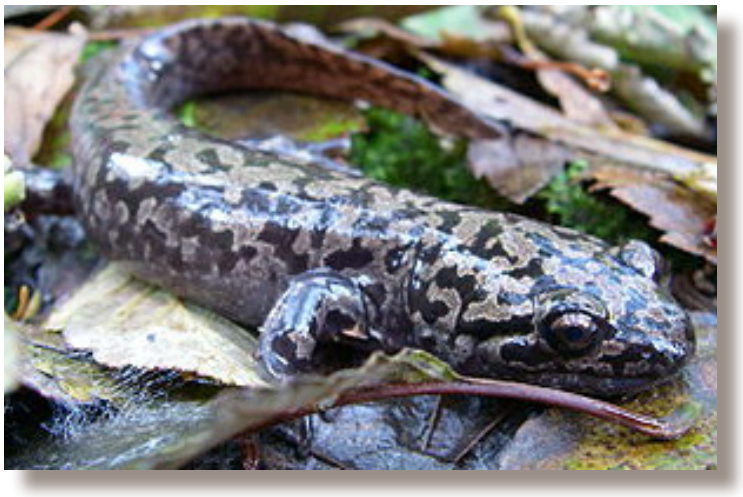


Pacific Giant Salamander - Photo by Jeffrey Marsten

[11] Wilcove, D., Rothstein, D., Dubow, J., Phillips, A., Losos, E. 1998. Quantifying threats to imperiled species in the United States. BioScience 48, 607–615.
[12] Nova Scotia Natural Resources. 2005. A Guide to Municipal Tools Supporting Wildlife Species and Habitats in Nova Scotia.

Table 2. Human activities and their effect on wildlife habitat, particularly in an urban setting (Nova Scotia Natural Resources, 2005).

Human Activity	Effect on Wildlife Habitat
Construction of roadways, railroads, power lines.	Habitat fragmentation: animal movements restricted; lack of populations mixing.
Paved surfaces; culverting streams and surface runoff.	Carry toxic substances to water bodies, reducing water quality.
Salt on roads.	Stress on vegetation and habitat nearby; reduce water quality from runoff.
Vegetation clearing for housing, commercial, industrial uses.	Natural vegetation replaced with human-made materials and mono-culture ground covers, reducing species diversity.
Wetlands filled or reclaimed or water regimes altered .	Wetland plant and animal species changed.
Urban parks of grass and old-aged trees; understory removal.	Less habitat diversity and fewer potential species.
Watercourse diversion.	Aquatic habitats disturbed.
Sewage.	Enrichment of water bodies with fertilizers, toxic contamination, reducing aquatic habitat quality.
Grazing of animals along watercourses .	Reduced vegetation, more erosion potential, manure runoff, reducing water quality.
Chemical fertilizers and pesticides.	Non-target toxic effects; groundwater contamination.
Introduction of exotic species.	Some species spread beyond local areas and replace native species (American Bullfrogs, Giant Hogweed, Himalayan Blackberry).
Lack of specific planning objectives for species and habitat types.	Development occurs with little regard to retaining room for other creatures.

1.4 Jurisdictional Responsibilities for SEAR and Habitat Protection

As a local government staff member or elected official, it can be hard to navigate jurisdictional responsibilities in respect to SEAR. The following section outlines and clarifies those responsibilities.

Decisions made by one jurisdiction can negatively impact the livability, ecosystems and environmental qualities of another. As such, a multi -jurisdictional approach with coordination and cooperation is essential in the effective conservation and protection of species and ecosystems at risk and their habitats.[13]

Useful Definitions from the *Species at Risk Act*

Critical Habitat: "habitat that is necessary for the survival or recovery of a SARA listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species."

Candidate Critical Habitat: The Critical Habitat described in a proposed/draft federal recovery document.

Habitat: the natural home or environment of an animal, plant, or other organism.

Effective protection: The successful application of the laws of the province/territory at preventing the destruction of critical habitat on non-federal lands. This is determined by the federal Minister of the Environment.[14]

1.4.1 Federal Jurisdiction

The federal government's jurisdiction with respect to the conservation of wildlife, habitat and the recovery of species at risk is established in three federal Acts; the Species at Risk Act (SARA) 2002, the Fisheries Act, 1985 and the Migratory Birds Convention Act, 1994.

The SARA aims to prevent the loss of wildlife species and to secure the necessary actions for species recovery. The SARA suggests cooperative stewardship initiatives as the first step towards recovery, but also contains legislated rules and regulations for when cooperation does not achieve recovery aims. SARA applies directly and immediately for listed migratory birds and aquatic species wherever they occur, and all other listed organisms and their habitats on federal lands. Listed species and their Critical Habitat (CH) that is identified within the species' federal recovery strategy that occur outside federal jurisdiction (such as private, municipal and provincial lands) must also be effectively protected as per SARA. The Act provides the provincial

[13] Curran, D. 1999. Environmental Stewardship and Complete Communities: A Report on Municipal Environmental Initiatives in British Columbia.

[14] Environment Canada. 2004. Species at Risk Act : Program Guide. A Guide to the Critical Habitat Provisions of the Species at Risk Act.

government, local governments, landowners and land managers with the first opportunity to protect Critical Habitat. Only if it is clear that the species and its Critical Habitat have not been effectively protected will the federal government consider implementing federal measures ('safety net' order).

The Fisheries Act addresses threats to recreational, commercial and Aboriginal fisheries. These threats include habitat destruction, incidental killing of fish and aquatic invasive species. The act used to protect all fresh and saltwater fish in Canada and employed a "no net loss" principle however recent amendments have narrowed its focus to only recreational, commercial and Aboriginal fisheries. Under the Migratory Birds Convention Act it is prohibited to kill, harm, harass, collect or possess a migratory bird without authorization, or destroy its nest. These same prohibitions also apply to migratory birds that are listed as Endangered, Threatened or Extirpated under the Species at Risk Act. Permits may be issued that impact a protected species during nesting season (e.g. "incidental take" due to hazard tree removal) however mitigative actions to reduce harm or damage must be applied.[15]

1.4.2 Provincial Jurisdiction

The provincial government has jurisdiction over most land and natural resource considerations (lands, mines, forests, freshwater fisheries, wildlife) in BC. Thus, the provincial government also has both direct jurisdiction over species and ecosystems at risk and their habitats and many natural resource related activities that directly or indirectly impact them. More than 43 percent of BC's assessed species are at risk[16] and almost 54 percent of BC's assessed ecosystems at risk.[17] There are components of the BC Wildlife Act, RSBC 1996 that provide individual protection for virtually all vertebrates, and endangered or threatened vertebrates can be listed under this Act (see above). Certain pieces of provincial legislation do confer some level of habitat protection for BC's species at risk. However, BC is one of the few provinces in Canada without stand-alone legislation for endangered species. Existing provincial legislation relevant to SEAR protection is summarized below.

Wildlife Act of British Columbia

The provincial Wildlife Act protects vertebrate animals from direct harm, except as allowed by regulation (e.g., hunting or trapping). Legal designation as Endangered or Threatened under the Act increases the penalties for harming a species, and also provides for possible protection of habitat in a Critical Wildlife Management Area, however, despite having identified hundreds of 'Red-listed' and 'Blue-listed' species, only 4 are legally listed under the Wildlife Act and therefore entitled to these protections. Protection for plants and invertebrates is limited to those that are indentified under the Forest and Range Practices Act (see below).

Forest and Range Practices Act (FRPA)

Under the Forest and Range Practices Act of British Columbia, species and ecosystems at risk can be designated as Identified Wildlife by the discretion of the Deputy Minister of Environment, if the species or ecosystem

[15] Environment Canada: Incidental Take of Migratory Birds in Canada <http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=C51C415F-1>

[16] Austin, M., Buffett, D., Nicolson, D., Scudder, G., and V. Stevens (eds.). 2008. Taking Nature's Pulse: The Status of Biodiversity in British Columbia. Victoria: Biodiversity BC. Available online: www.biodiversitybc.org

[17] BC Ministry of Environment Conservation Data centre, Ecosystem Branch <http://www.env.gov.bc.ca/cdc/>

requires special management to address the impacts of forest and range activities by tenure holders on crown land. The terms "wildlife" and "species at risk" are defined to include endangered, threatened, or vulnerable species of vertebrates and invertebrates, endangered or threatened plants and plant communities, and regionally important vertebrates that may be designated as Identified Wildlife. Identified Wildlife are managed through the establishment of Wildlife Habitat Areas (WHAs) and implementation of General Wildlife Measures (GWMs) and other mechanisms as outlined in the Identified Wildlife Management Strategy (IWMS). While potential for protection exists, it is limited to protection from forest and range activities by crown tenure holders.

Riparian Areas Regulation (RAR)

The Riparian Areas Regulation (RAR), enabled by the Fish Protection Act, provides legislated direction for local governments aimed at achieving improved protection of fish and fish habitat. The RAR directs local governments to protect riparian areas during new residential, commercial and industrial development, through the use of Part 26 in the Local Government Act. Under the Fish Protection Act, section 12(4), a local government affected by a policy directive such as the RAR must:

- Include riparian area protection provisions in its zoning bylaws and permits, in accordance with the directive, or
- Ensure that its bylaws and permits under Part 26 of the Local Government Act provide, in the opinion of local government, a level of protection that is comparable to or exceeds that of the directive.

This regulation can be useful not only for protection of fish and fish habitat, but also has the potential to protect portions of habitat for streamside dependent species like the Pacific Water Shrew and for ecological communities such as cottonwood – re-osier dogwood. However the RAR is not designed to protect broader watershed function or landscape level connectivity needed for many species and ecosystems at risk. There are several land use designations and activities that are exempt from RAR including but not limited to agricultural, institutional, mining and forestry.

1.4.3 Municipal and Regional Jurisdiction

The responsibilities and authority of local governments in BC are delegated by the province through the Local Government Act and the Community Charter. Local governments do not have explicit responsibilities for conservation of wildlife and habitats. However, they must ensure they do not violate provincial and federal legislation themselves, and they should consider due diligence for actions and decisions that may facilitate violations by other parties. Local governments are also responsible for many things that can impact on species at risk, ecosystems, and habitat. While only ~4.9% of land in the province of BC is privately owned land, a large portion of species and ecosystems at risk habitat occurs on private land. Through management of drinking water, sewage treatment, solid waste, pesticide use, land use, transportation and energy planning, local governments have significant influence over land use activities and the actions of their residents with respect to the environment and human health and therefore wildlife and habitat. Table 3 provides a list of possible

Table 3. Municipal and Regional Jurisdiction (Green Bylaws Toolkit, 2009).

Bylaw Approaches	Municipal	Regional District
Regional Growth Strategies	Local Government Act Part 25	Local Government Act Part 25
Official Community Plans (including Local Area & Watershed Plans)	Local Government Act ss.875-879, 882, 884, 941 (OCP) Community Charter s.69 (drainage)	Local Government Act ss.875-879, 882, 884, 941 (OCP) Local Government Actss.540-542 (drainage)
Zoning Density Bonus/Amenity Zoning Parking Runoff Control & Impermeable Surfaces	Local Government Act s.903 Local Government Act s.904 Local Government Act s.906 Local Government Act s.907	Local Government Act s.903 Local Government Act s.904 Local Government Act s.906 Local Government Act s.907
Development Permit Areas	Local Government Act ss.919.1-920	Local Government Act ss.919.1-920
Riparian Tax Exemption	Community Charter s.225	Local Government Act ss.811-811.1
Impact Assessment Development Approval Information Areas Development Process	Local Government Act ss.919-920.01 Local Government Act s.895	Local Government Act ss.919-920.01 Local Government Act s.895
Watercourse Protection Bylaw	Community Charter ss.8(3)(j), 9(3)(a) & 15 Spheres of Concurrent Jurisdiction• Environment and Wildlife Regulation s.2(1)(a)	
Rainwater Management Bylaw	Local Government Act s.907 (impermeable surfaces) Community Charters.69 (drainage)	Local Government Act s.907 (impermeable surfaces) Local Government Act ss.540-542 (drainage)
Landscaping Bylaw	Local Government Act s.909 Community Charter s.15	Local Government Act s.909
Tree Protection Bylaw	Community Charter ss.8(3)(c), 15 & 50	Local Government Act s.923
Soil Removal & Deposit Bylaw	Community Charter ss. 8(3)(m), 9(1)(e) & 15	Local Government Act s.723
Pesticide Use Bylaw	Community Charter ss.8(3)(j), 9(3)(a) & 15 Spheres of Concurrent Jurisdiction • Environment and Wildlife Regulation s.2(1)(b)(ii)	
Invasive Species Bylaw	Community Charter ss.8(3)(j), 8(3)(k), 9(3)(a) & 15 Spheres of Concurrent Jurisdiction • Environment and Wildlife Regulation s.2(1)(b)(iii) (control and eradication)	
Security	Community Charter ss.8(8)(c), 17 & 19 Local Government Act s.925	Local Government Act s.925
Subdivision Servicing Bylaw	Local Government Act s.938	Local Government Act s.938
Development Cost Charges Bylaw	Local Government Act s.933	Local Government Act s.933

municipal and regional environmental bylaws extracted from the Green Bylaws Toolkit and their associated legislative authority.[18]

1.5 Rationale and Benefits of LG Involvement

Table 4, extracted from 'A Guide to Municipal Tools Supporting Wildlife Species and Habitats in Nova Scotia' summarizes the rationale and benefits of local government involvement in SEAR and habitat conservation.[19] The amount that a community values each 'benefit' differs across and within communities. Local government staff and officials can tailor education, outreach and policy to appeal to the values held by their residents. Several public opinion surveys performed in the South Coast region show the support of the general population for the protection of the natural environment and species at risk. These studies can be used as evidence of public support when engaging in discussions with the public, council or other interested parties.[20]

Table 4. Rationale and benefits for local government involvement in species and ecosystems at risk, wildlife and habitat conservation, and recovery initiatives (Nova Scotia Natural Resources, 2005).

General Rationale	Specific Benefit
Creates informed and Healthy Public.	Species at risk are indicators for the health of environment.
	Better understanding of links to human health, quality of life.
	Encroachment on habitats leads to wildlife-human encounters – SEAR awareness and education can help mitigate this.
Improved Economic Competition .	Tourism (aesthetics, community image).
	Ecotourism.
	Increased Property Values.
High Quality Recreational Experience.	Outdoor activities (hiking, biking, canoeing, camping).
	Hunting and fishing.

[18] Curran, D. 2009. Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure. Ducks Unlimited Canada. Available online: http://www.toolkit.bc.ca/resource/green-bylaws-toolkit

[19] Nova Scotia Natural Resources. 2005. A Guide to Municipal Tools Supporting Wildlife Species and Habitats in Nova Scotia.

[20] Species at Risk Public Opinion Surveys for Canada, BC and the South Coast. <sccp.ca/resources/species-risk-public-opinion-surveys-canada-bc-and-south-coast>

Part 2.
Local Government Guide to Supporting Species and Ecosystems at Risk

Oregon Forest Snail - Photo by Ryan Durand

Part I provided background information on wildlife and species at risk, how our actions can negatively impact the natural environment, the rationale and benefits associated with local government involvement in conservation efforts, and highlighted conservation actions and tools that are already being applied.

Part 2 addresses some of the basic considerations often overlooked when planning for SEAR, as well as providing a more detailed account of some the specific planning tools available to local governments. The specific tools and broad roles for local governments that are outlined here have not all been traditionally devised for assisting in conservation; however their usefulness in this regard is increasingly becoming recognized. Guidance is provided in such a way as to promote the integration of these ideas into everyday local government operations, something that is seen as key in creating meaningful and long lasting protection. Integration equates to SEAR considerations being understood and addressed at all levels of local government operation, from front counter staff to technicians, planners, engineers, elected officials and beyond.

2.1 Know what you have

In order to benefit from the protection of species and ecosystems at risk, local governments need to have detailed information about what types of species are present where they occur. This requires collection and regular updating of mapped SEAR data. Accurate and up to date spatial data about SEAR and their habitat is important in prioritizing land use and conservation measures. Acquisition (parks, protected areas), planning (zoning, environmental development permit areas) and other types of protection measures can be more effectively established in a way that best meets management objectives. As an example an objective could be to protect the entire critical habitat of a certain species, to protect an area that has the most benefit to the highest number of species or to manage for multiple uses (recreation, species habitat, stream protection) etc. The federal and provincial governments have spatial data for many species and ecosystems at risk in the South Coast. Spatial data should be interpreted in conjunction with recovery strategies and any questions or concerns should be addressed to recovery teams and regulatory authorities.

A case study in local government conservation planning
City of Surrey
Biodiversity Conservation Strategy

The City of Surrey is currently in the final stages of developing a Biodiversity Conservation Strategy (BCS). The BCS will be a policy framework that will clearly establish biodiversity goals and targets and conservation priorities for the City of Surrey.

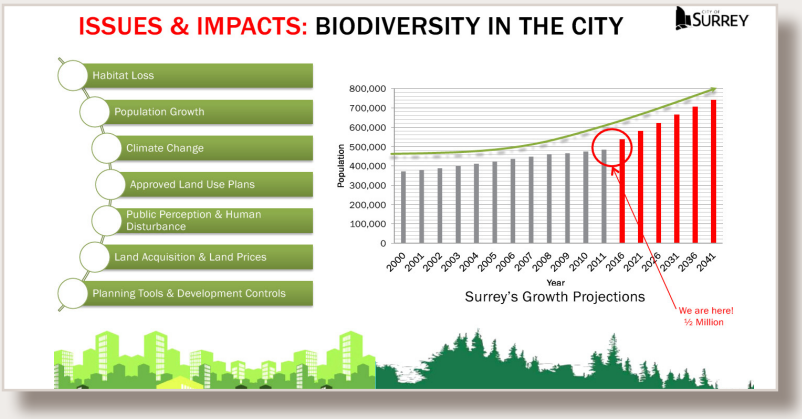
It will contain biodiversity mapping and recommendations for policies and regulatory tools that will be used to manage the City of Surrey's biodiversity and will result in information that will assist in the updating and implementation of the Official Community Plan, Sustainability Charter, Neighbourhood Concept Plan and the Parks, Recreation and Culture Strategic Plan. The Strategy will also include a monitoring component that allows for measurements to demonstrate the effectiveness of the Strategy over time.

The City of Surrey is one of the fastest growing and developing areas in the lower mainland. It is also an area of significant local biodiversity with 1/3 of the land base in the Agricultural Land Reserve, and the majority of its original watercourses, many of them fish bearing, still exist.

The City set the foundation for Biodiversity conservation by completing an Ecosystem Management Study (EMS) in 2011. The EMS includes an updated inventory of environmental assets and management processes to protect and enhance these assets. This study provided mapped data that was further refined and evaluated based on a number of metrics during the development of the BCS. The BCS builds on the EMS through six key goals. The Biodiversity Conservations Strategy:

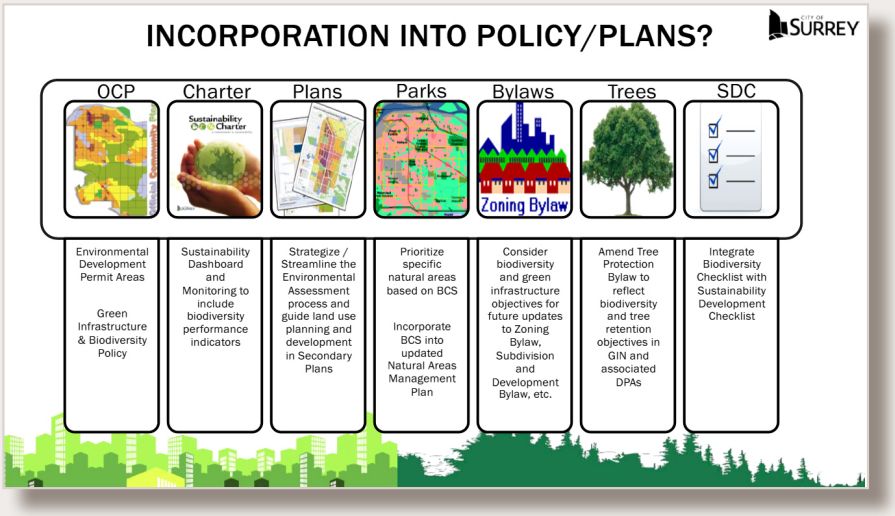
- Identifies and quantifies current biodiversity and habitat resources in the City;
- Prioritizes options and establishes management criteria for the Green Infrastructure Network (GIN);
- Specifies management criteria and strategies for urban ecosystems and habitat elements;
- Sets conservation targets for natural areas and indicator species;
- Provides a long-term monitoring program that builds on management objectives, criteria and indicators to measure the success of the strategy;
- Recommends policy and procedures that will support the initiatives in the Strategy.

One of the most innovative aspects of the City of Surrey's BCS is that is has a strong financial analysis component that identifies the mechanism that will be used to purchase and protect biologically important lands within the city.



Learning Outcomes to Date

- Keep mapping separate from policy and management options during the approval and political vetting stages. Mapping is easier for to understand and less controversial than management recommendations, so it is more likely to be approved. It can be the important first step in other more controversial processes, like strategy development. The City of Surrey completed the EMS mapping exercise before undertaking the Biodiversity Conservation Strategy.
- Most developers are not fundamentally opposed to additional development charges or fees, they just want to know what the "rules" are from the start so they can plan accordingly, which includes the purchase price of parcels. Developers become oppositional when permit conditions and fees are a moving target.
- Take the time to let citizens become familiar with the plan and to provide adequate feedback.
- Include references to your more progressive work (the BCS in this case) in as many other municipal documents and correspondences as possible. In this way, the strategy becomes a familiar concept to the public and politicians and is integrated into municipal language, ahead of any actual approvals of the work.



For more information on the City of Surrey Biodiversity Conservation Strategy, Please contact:
Stephen Godwin, Environmental Coordinator, City of Surrey, SGodwin@surrey.ca

2.1.1 BC Conservation Data Centre

The BC Conservation Data Centre (BCCDC) maps known locations of Red- and Blue-listed species and ecological communities, referred to as 'occurrences'. The Conservation Data Centre iMap theme can be used to view mapped occurrences and print occurrence reports. Shapefiles of public occurrences can be downloaded via the B.C. Government Data Distribution Service, and fall under the Open Government License.[21] It is important to note that the absence of occurrence records in an area of interest does not mean that there are no species or ecosystems at risk present; only that there are none currently recorded in the database corresponding to a specific location .

2.1.2 Data sharing with Environment Canada's Canadian Wildlife Service (CWS)

Environment Canada's Canadian Wildlife Service (CWS) is interested in sharing detailed spatial data describing the location of candidate and final Critical Habitat for species listed under the Species at Risk Act with local governments, to better facilitate informed land use planning and habitat protection.

Static maps pertaining to final critical habitat are publically available in the individual species' recovery strategies at: www.sararegistry.gc.ca.

Spatial data (in GIS format) pertaining to candidate Critical Habitat can be shared in compliance with Section 39 of the Species at Risk Act, and is bound by the conditions of a No-Fee End-Use Restricted License Agreement for Government of Canada Geographic Data. Data provided under this type of agreement is in draft form and will be used to inform the identification of Critical Habitat where Critical Habitat has yet to be finalized. CWS provides this data for the purposes of consulting on the technical accuracy of candidate Critical Habitat.

Spatial data should always be interpreted in conjunction with the recovery strategy that identifies Critical Habitat, as Critical Habitat has specific biological characteristics as well as being defined by a location. The identification of Critical Habitat is only part of the overall recovery strategy for a listed species, which also includes important information related to the species' status, population and distribution objectives, and threats to the species and its habitat. It is the hope of CWS that the provision of this information will aid local governments in any land use planning and development activities that may impact Critical Habitat for species within their area of jurisdiction. Local governments can contact the Species at Risk Consultation Coordinator if they have any questions or wish to enter into a data sharing agreement. Contact information for federal representatives and other important contact can be found in Appendix D.

[21] Some occurrence records are secured for various reasons. Details of secured occurrence records are available if there is a "need-to-know". Please contact CDC for information about secured occurrence records <http://www.env.gov.bc.ca/cdc/>

2.2 Connect with the Experts

There is a lot to consider when addressing species and their habitat in land use planning. Navigating legislation, politics and community interests and understanding species-specific recovery actions can be complicated. A number of local government departments do not have the capacity to effectively deal with these issues. Connecting with federal and provincial representatives, local conservation organizations and other experts who may be able to provide expertise can help streamline the process and reduce challenges.

2.2.1 Species at Risk Recovery Teams

For local governments wanting to get more involved or knowledgeable about recovery efforts within their community, it is important to contact the appropriate Species at Risk Recovery Team. A Recovery Team exists for most COSEWIC-assessed species at risk in BC. These teams help oversee all conservation and recovery efforts for a species, including the development of the 'recovery strategy'. For example, conservation groups and or local governments wanting to undertake activities to enhance critical habitat or assist with conservation and recovery of a species within their community would need to communicate with the Recovery Team prior to proceeding. This ensures efforts are coordinated and harmonized with planned actions by specialists and regulators and based on the most up to date recovery recommendations. To contact a specific recovery team, search the species recovery strategy on the Species at Risk Public Registry or contact the appropriate provincial or federal representative (Listed in Appendix D).

2.2.2 Contact Provincial and Federal Representatives

In addition to recovery teams, provincial and federal SEAR representatives are an excellent resource for information, support and guidance. Examples of ways provincial and/or federal representatives can assist local governments to become involved in SEAR and habitat protection include:

- The provincially coordinated Species and Ecosystems at Risk Local Government Working Group (SEAR LGWG), providing a forum for communication between provincial and local governments on SEAR issues. The group works together to enhance SEAR protection on private and local government lands.
- Advice on funding sources and potential partners for SEAR related work.
- Access to GIS layers and maps of Critical Habitat for federally listed species, and ecosystems at risk occurrence information, and provincial Sensitive Ecosystems Inventory (SEI) data[22] for use in local government land use plans. A list of species at risk for which the federal government will be performing public consultation. This will help local governments address any questions that get misdirected to them. See Appendix B for an example notice than can be sent to residents.
- Communications: language/support or presentations to staff, officials or developers or the public regarding SAR in BC and/or the application of the Species at Risk Act on private land.
- Information on best management practices and current science for species and ecosystems at risk.

[22] sensitive ecosystems inventory (SEI) <http://www.env.gov.bc.ca/sei/index.html>

2.2.3 Local Conservation Organizations

The South Coast Region has a diversity of committed and informed non-profit organizations and community groups working on SEAR and biodiversity conservation. The work of these groups can range from public education and outreach, to research, restoration and monitoring to advocacy, facilitation and policy development. These groups are not only an excellent community resource, but potentially partners for SEAR conservation work. A list of conservation groups, organized by region can be found in Appendix A.

2.2.4 First Nations

While First Nation's lands are often seen as separate and distinct in respect to SEAR management and jurisdiction, the Species At risk Act was the first piece of legislation to recognize a special and intrinsic relationship between Canada's Aboriginal peoples and the recovery and protection of species at risk.[23]

The preamble in the Act recognizes this important role and states: "the traditional knowledge of the aboriginal peoples of Canada should be considered in the assessment of which species may be at risk and in developing and implementing recovery measures". Local governments, decision makers and conservation organizations should strive to ensure adequate and appropriate consultation and integration of this traditional knowledge as part of overall planning and recovery activities whenever possible.

2.3 Share the Information

Misinformation, miscommunication and the resulting lack of trust are key barriers to the successful inclusion of SEAR and biodiversity considerations into local government planning. A well-informed staff, council, public and development/land use community is a foundation to moving conservation initiatives forward smoothly. Opposition, differing values, priorities and agendas will of course exist. However, a well-informed community will reduce the number and magnitude of issues and will expedite the process of finding solutions. This document, particularly the background information contained in Part I and the Appendices provides local governments with a solid overview to address knowledge gaps around species and ecosystems at risk, and wildlife conservation issues for the South Coast.

2.3.1 Staff and Council

Starting internally by educating and training local government or regional district staff in all relevant departments is an essential step in ensuring that there is a system-wide acknowledgement and integration of values that the natural environment, wildlife, habitat and biodiversity have as part of local government decision-making. These issues must be a part of everyday operations within local governments and must be the responsibility of all rather than just an afterthought or an addendum added to approved policies and plans. In-house staff

[23] Assembly of First Nations Species at Risk Act Survival Guide, March 2009. <http://www.afn.ca/uploads/files/env/sara-guide.pdf>, Report of the British Columbia Task Force on Species at Risk, January 2011. <http://www.env.gov.bc.ca/sartaskforce/Documents/SpeciesAtRisk_report.pdf>

workshops, training sessions, lunch-and-learns, and educational materials like issue specific booklets/notices can address local government-specific elements of environmental protection.

2.3.2 The Public

As discussed, a well-informed public is also key to effectively integrating SEAR protection into long-term decision making. The public can become involved in many aspects of SEAR recovery and protection including:

- Collecting species data/ground truth sightings and critical habitat delineation
- Providing volunteers for stewardship, habitat restoration, and monitoring initiatives.
- Creating momentum and support for the issues within the community and beyond.
- Providing input for SEAR related policy and planning directives, like OCPs, bylaws, biodiversity strategies etc., in turn making these pieces more relevant, useful and well-accepted.

Involving the public can increase the level of ownership and value recognition of species and species related projects, reduce opposition to local government led initiatives and policy development and act as an excellent public relations opportunity.

2.3.3 Working with Developers

Species and ecosystems at risk are often seen as being at odds with development. However in many cases impacts can be mitigated and development can proceed in a way that increases value and livability of the site. In order for this to be possible, developers must be aware of the benefits of environmentally conscientious development and must be made aware of what standards, permits, costs and considerations are involved BEFORE development begins.

In the past there have been many cases where permitting or regulatory requirements change DURING a project or are a moving target between projects. This is one of the reasons developers are not willing to include SEAR considerations in their developments. Dealing with these issues proactively by knowing where important SEAR and critical habitat is located, by having a process for flagging affected properties, and by communicating with developers effectively is necessary. Appendix C provides examples of language that can be used when communicating with developers about SEAR. Appendix C also provides information regarding how to identify and address properties where proposed activities could negatively impact species at risk or their habitat, including language to include in development permits.

[24]Curran, D. 2009. Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure. Ducks Unlimited Canada. Available online: http://www.greenbylaws.ca/

A case study in the Pemberton Valley
Sharp-tailed snake: Planning for a cryptic Species at Risk

Background

The sharp-tailed snake is listed as endangered in Canada under the Species at Risk Act. In August of 2011 the tiny, cryptic, non-venomous sharp-tailed snake was found on the Mackenzie Ridge in the Pemberton area while herpetologists were looking for the rubber boa, another at risk species. This sighting was shocking as it was more than 200 kilometres from the only known BC occurrence (on the Gulf Islands) and more than 300 kilometers from the next closest mainland occurrence record (Washington State). In the spring of the following year, local herpetologists logged long hours looking for more specimens and found 4 new sites, 7 new specimens and 2 hibernacula (dens). These sites were found on private land slated for development. Since the discovery, local naturalist societies, most notably Stewardship Pemberton have worked the Village of Pemberton, the community and developers to find proactive solutions to mitigate the impact of development on the sharp-tailed snake. Their goals are to learn more about the life history and distribution of this and other co-occurring species, and to initiate community outreach awareness and involvement in the protection of this elusive at risk snake. Stewardship Pemberton received a grant from Habitat Conservation Trust Foundation in order to facilitate these goals.

Sharp-tailed Snake
Photo by Leslie Anthony

Habitat where Sharp-tailed Snake
was found - Photo by Leslie Anthony

Planning Considerations

- Pemberton's Urban Growth Boundary was extended in May 2011 to include the Hillside Special Planning Area. The lower sites where the sharp-tailed snake occurs were included within the boundary and designated a Development Permit (DP) area. Pemberton has included actions related to the protection of species, throughout the DP process.
- Sharp-tail snakes were found on three separate privately owned parcels of land. The parcel furthest along in the rezoning process consists of 56 proposed single family homes and 230 townhome units on 54 acres (22 ha) as well as installation of all supporting infrastructure including a school. This represents only 5% of the proposed development area, which incorporates a total of 1006 acres. As such, there are ample opportunities to provide recommendations on layout, construction mitigation and potential compensation.
- Developers are responsible to address species and ecosystems through the development permit process, including consulting with local conservation organization of management and mitigation best practices.
- Stewardship Pemberton attempted to engage developer to address sharp-tailed snake concerns prior to ground breaking and offer support and the Village of Pemberton has initiated roundtable discussions with the developer and stakeholders. While initially receptive to working within the conditions of the DP, the developer has since sought legal advice as to responsibility to protect the sharp-tailed snake.

Status

The development is on hold as conditions of permit are not yet met. The village of Pemberton has sought support of provincial and federal SEAR representatives in understanding its responsibility to protect SAR.

Learning Outcomes to Date

- The inclusion of conditions in development permits for the protection of species, and for consultation with local environmental organizations are proactive steps in that local governments can take to protect SEAR.
- Working closely with local conservation organizations can reduce costs, and increase capacity for managing SEAR issues.
- Most often there are opportunities for development to proceed in a manner that is both profitable and maintains the integrity of necessary habitat. Getting developers on board in the early stages and adequately communicating their legislated responsibilities with respect to protecting SEAR, as well as the benefits is key.

For more detailed information on the case study and for updates, please contact:

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Ecofish Research Ltd.
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PART 2. LOCAL GOVERNMENT GUIDE TO SUPPORTING SPECIES AND ECOSYSTEM AT RISK

2.4 Plan and Implement actions to Support SEAR and Biodiversity

We have already outlined some actions local governments can take immediately to become conservation leaders. The following section outlines the roles local governments can play in conservation as well as some specific tools that have the potential to effectively protect SEAR. It is important to recognize that none of these roles or mechanisms is a silver bullet and not every community will require the same approach; a packaged approach that reflects the community's goals, objectives and capacity is needed. As explained in Part I, the benefits to being involved in conservation initiatives go well beyond assisting species and ecosystems at risk and habitats alone and can result in direct benefits to human health, quality of life, and the local economy. The following is an overview of initiatives and actions related to species and ecosystem protection. More detailed information on any of the below mentioned concepts can be found in the 'Green Bylaws Toolkit'.[24] The Toolkit is an exceptionally informative, detailed and comprehensive resource guide.

Many of the roles listed below require capacity in the form of time, money or expertise. While local governments are well-positioned as a regulator of land use through rezoning, subdivision, development permits, building permits, local governments are not necessarily "well-resourced" to address such issues. Several creative options for the funding of SEAR efforts, including the development of "conservation funds" are listed in the Green bylaws toolkit, and the provincial SEAR group is currently working on an initiative related to incentives for SEAR protection.

Another possible solution is the development of a dedicated position within a Regional District or working with local conservation partners to address SEAR management and protection. Such a position or partnership could take the lead to develop outreach materials, coordinate data sharing or liaison with senior government on behalf of member municipalities. Activities could be cost shared so that all local governments within a Regional District would benefits to.

2.4.1 Local Government Stewardship

Stewardship is a term used to refer to a broad range of activities, which involves landowners, private companies, voluntary organizations, government, and/or individual citizens caring for our land, air, water, and sustaining the natural processes on which life depends. Local governments, as landowners, regulators, and the level of government closest to the people, can lead by example with good stewardship practices and initiatives and can promote the use of these practices by residents. The following outlines broad roles local governments can play in supporting species and ecological communities at risk, their habitats and biodiversity more broadly.

2.4.1.1 Planning

As described in Part I of this document, there are several threats that relate directly to the regulation of land use and development. Land use planning may be one of the most significant roles that a local government can play in assisting in the conservation of species at risk and habitats. As a result, specific planning tools are addressed in more detail in section 2.4.2.

2.4.1.2 Land Ownership

Many local governments own a significant amount of land and have to manage and maintain these properties. As landowners, local governments can lead by example when it comes to land management and species and ecosystems at risk. Firstly, local governments can take steps to determine whether or not ecosystems and species at risk and their habitat are present on local government land. This is especially important before construction or development. Local governments can lead by example by selecting maintenance and construction methods that minimize or eliminate negatives impacts. Choosing to maintain natural vegetation on a site would be integral to retaining natural ecosystem services such as noise and visual buffering, treatment of run-off, helping control erosion as well as maintain natural habitat for wildlife species.

If SAR or critical habitat are identified on local government land, the local government can also take steps to ensure the protection of the land through (as an example), the formation of a park, protected area, setting up a conservation easement (see section 2.4.2), partnership with a land trust or taking advantage of the benefits of donating land through the federal "Ecogifts Program" (see section 2.4.2).

When purchasing land, local governments can give consideration to whether or not the land has significant wildlife value including specific ecosystems and species at risk habitat, and how it is connected to other habitat areas, such as government owned parks and protected areas. In this way, local governments can optimize the benefit of land purchases and increase the amount of connectivity through the landscape.

Finally, when local governments sell land, they should be aware of any sensitive ecosystems, species at risk or habitat attributes. To support this, a process could be established where parcels of land for sale are cross-referenced with a database of species and ecosystems at risk locations and a Recovery Team or provincial or federal representative is contacted prior to the public sale of land (See Appendix D)

2.4.1.3 Parks and recreation

Municipal and regional parks and recreation departments can play a number of important roles in assisting with the conservation of native species and their habitats. One important aspect of the parks and recreation role is the design and designation of parks and protected areas within local government jurisdiction, which take into consideration both human recreation needs and the conservation of important habitats, and environmentally sensitive lands. Regional Districts have a large role to play in ensuring the continuity and consistency of these management concepts across the landscape as they own large parcels of land and have a strong focus on parks and recreation services.

Local governments can also engage in habitat restoration projects on their land, where appropriate. Qualified professionals should undertake habitat rehabilitation and recovery team members should be consulted if

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[25] Contact the SCCP at info@sccp.ca for further information.

[26] Resort Municipality of Whistler's (RMOW) proposed Environmental Protection Bylaw was updated in 2013 and is being rolled out in the first part of 2014. <http://www.whistler.ca/environmental-protection-bylaw>

2.4.1.4 Bylaws

In addition to land use bylaws (discussed in section 2.4.2), local governments have been enabled to enact innovative bylaws that benefit communities and the natural environment. With respect to ecosystems and species at risk, bylaws can be developed to address threats to recovery such as invasive species, pesticide use, domestic pets, water use, and tree cutting. The Resort Municipality of Whistler has just enacted an environmental protection bylaw to address a range of these issues.[26] A comprehensive review of environmental bylaws is provided in the Green Bylaws Toolkit.

2.4.1.5 Education

As discussed in section 1.4.3, local governments are well positioned to communicate educational information on ecosystems, wildlife, habitat, species at risk, and the natural environment to residents. Local governments already have effective mechanisms in place such as newsletters, pamphlets, mail-outs, etc. and other established public engagement forums and community associations. Residents are increasingly aware that government offices are locations where they can get current information and resources regarding a variety of issues related to their municipality, property, and community.

Local governments can share a variety of educational materials with their residents from general wildlife occurrence, ecosystems, and identification information and material about the benefits of conserving and protecting the natural environment (see section 1.5), to sector specific information like Develop with Care guidelines for developers and best management practices that address specific threats to species and ecosystems at risk. Conservation organizations like those listed in Appendix A have a range of education materials that can be of use to citizens and their local governments.

The Develop with Care guidelines were prepared by the provincial government for use by local government planners and the development community as a comprehensive guide to maintaining environmental values during the development of urban and rural lands. Develop with Care sets out the program priorities of the Ministry of Forests, Lands and Natural Resource Operations, the Ministry of Environment, and other provincial and federal agencies. The guidance documents feature information on 'green' alternatives to typical urban development, riparian protection, terms of reference for conducting biological inventories, checklists for streamlining review processes, and more.[27]

Best Management Practices (BMPs) for species at risk provide guidance for managing activities that are a threat to the recovery of listed species. These management practices are based on the best available science and recognize a need to promote the conservation of species on working landscapes. Local governments can establish, follow and disseminate BMPs. Some BMPs are included in the Develop with Care guidelines, and organizations like the Stewardship Center of BC have developed comprehensive 'Voluntary Stewardship

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[27] Develop with Care guidelines also include a number of species at risk factsheets specific to the South Coast region. <http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2012/index.html>

Practices' for several of the most common threats to species at risk. Through extensive consultation with individuals and organizations that have an interest in the activities addressed, the Stewardship Centre of BC has developed these BMPs for drainage maintenance in agricultural water ways, recreational climbing, domestic and feral cat predation, riparian areas in settled landscapes, and guidance for restoration activities in riparian areas.[28]

2.4.2 Specific Land Use and Planning Tools

Regulation of land use and development is one key local government responsibility that impacts wildlife and ecosystems. Land use change and development can lead to habitat loss and degradation, which is one of the primary threats to ecosystems and wildlife species. As many of the species and ecological communities at risk in BC occur on private land, there is a strong reliance on private landowners to contribute to the protection and conservation of species and their habitat to maintain their long-term integrity for the region as a whole. Land use planning can help ensure, to some extent, that private landowners meet a minimum standard for considering the natural environment in their development and land use.

Table 5 provides an overview of specific land use tools and policies that can be employed in the protection of ecosystems, species, habitats and the natural environment adapted from the Green Bylaws Toolkit and A Guide to Municipal Tools Supporting Wildlife Species and Habitats in Nova Scotia. Specific details regarding the development or implementation of these tools can be found in the Green Bylaws Toolkit, Develop with Care guidelines or by consulting with provincial and federal representatives.

2.5 Moving Forward

Human activities have already had significant impacts on native flora and fauna and the ecosystems that they rely on. In the past protecting species and ecosystems at risk was seen to be at odds with development and economic growth. With a human population expected to double in the next 20 years increasing conflicts over conservation versus population growth appear to be inevitable.

However that does not necessarily have to be the future for SEAR on the South Coast. Today communities are beginning to realize that investing in the health of their natural capital is fundamental to sustaining overall community well-being and resiliency. The collaborative efforts of local governments, decision makers, First Nations and non-government partners to affect conservation-based land use decisions will be integral to ensuring that future for BC's South Coast and beyond.

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[28] The SCBC's Draft Stewardship Practices guides for species at risk are available on their website <http://www.stewardshipcentrebc.ca/>.

Table 5. Specific local government planning tools that can assist in the conservation of species and ecosystems at risk, wildlife and habitat.

Tool for protection	Explanation of Tool	Strengths of tool	Weakness of Tool with respect to Conservation Benefits
Regional Growth Strategy	• An agreement between member municipalities and a regional district on social, economic, and environmental goals and priority actions. • Guides decisions on growth and development within the regional district. • One goal of a RGS is to protect environmentally sensitive areas [Local Government Act s.849 (1)(d)]. • Can include (or adopt by reference) a regional conservation strategy that deals explicitly with maintaining and restoring ecosystem functioning in a region.	• Initiates discussion about regional issues. • Increases profile of regional issues with local government and public. • Creates regional visions and mechanisms for discussing regional change.	• Need for agreement of all member municipalities and regional board leads to compromise in RGS to obtain consensus. • Board members/ municipalities unwilling to support a regional plan that significantly influences local action. • Reluctant to deny applications from member municipalities to amend the RGS: e.g., to extend servicing into rural areas. • No incentive to meet provincial goals for ecosystem protection. • Enforcement provisions unclear and/or onerous.
Official Community Plans (OCPs) and Local Area Plans	• An Official Community Plan (OCP) and its component sub-plans such as neighbourhood plans, local area plans, and/or watershed plans set a general direction for development and conservation in a community. • May contain policies for the "preservation, protection, restoration and enhancement of the natural environment, its ecosystems and biological diversity" (s.878 of the Local Government Act). • Articulates the community's objectives and policies regarding land use, community development, and operations. OCPs also set EDPA guidelines for protecting ecosystems.	• Informs the designation of greenways, DPA guidelines, and infrastructure development. • If the RCS is part of an OCP or RGS, all bylaws must be consistent with it. • Provides a mechanism through which to monitor and assess .change on a regional scale. • Can respond to current or near-future Species at Risk Act listings of extirpated, endangered, or threatened species.	• Enforcement mechanisms are unclear and onerous.

Tool for protection	Explanation of Tool	Strengths of tool	Weakness of Tool with respect to Conservation Benefits
Zoning	• Allows local governments to regulate the use to which a landowner can put a piece of land and how much of that use (density) is allowed on a specific part of the land. • On a neighbourhood or site-specific level, use and density are the primary means local governments have to shape development. • 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 directing development towards more appropriate locations.	• Provides several ways (lot sizes, density, setbacks, and permitted uses) to direct development away from sensitive ecosystems. • Can include some ecosystem function regulations (impermeable areas, drainage, and permitted uses e.g., non-polluting). • Can encourage the permanent protection of sensitive ecosystems (dedication of sensitive areas upon rezoning, density bonus).	• Not fine-grained enough to respond to site-specific ecological conditions. • Conservation zoning to protect sensitive ecosystems can be politically unpopular when it reduces allowed densities and increases lot sizes in some areas. • Amenity density bonus often causes controversy.
Environmental Development Permit Areas (EDPAs)	• Local governments may designate EDPAs to protect the natural environment, its ecosystems, and biological diversity; to regulate the form and character of development; and to influence the siting of development on a parcel. • EDPAs are a more fine-grained tool than standard zoning for shaping how development occurs on a site • EDPAs enable staff and council to make site-specific decisions about protecting sensitive ecosystems. • A landowner must obtain a development permit for land in an EDPA before: subdividing it; constructing, adding onto, or altering a building or other structure on it; or altering the land.	• Enables site- or sensitive ecosystem-specific control on development. • Able to prohibit site disturbance before development approval. • Can require dedication of watercourses. • Guidelines can be sufficiently detailed to shape development. • Development permit applies to the land and development, regardless of ownership. • May include impact assessment process and may require specialized information. • Can vary zoning setbacks. • Can address Riparian Areas Regulation requirements and other site-specific senior government standards.	• Requires additional staff expertise and time to review applications and set permit conditions. • Designating more than riparian areas is politically unpopular. • No influence on the amount of development that is appropriate on a site (has to follow zoning). • Flexibility in applying guidelines may result in inadequate environmental protection. • Cost to landowner for professional impact assessment may prohibit development (take care in defining exceptions). • Enforcement by court injunction is difficult.

Tool for protection	Explanation of Tool	Strengths of tool	Weakness of Tool with respect to Conservation Benefits
Regulatory Bylaws	• Local governments, both municipal and regional district, have other means to regulate activities such as landscaping, the movement of soil, watercourse protection, pesticides, invasive species and tree protection that have an impact on the green infrastructure. • It is possible to use these provisions as stand-alone bylaws, or as sections of a comprehensive green infrastructure bylaw.	**Screening and Landscaping** • Potential for rehabilitating degraded sites on a municipal-wide basis. • Long-term rehabilitation of watershed or landscape plans, including removing invasive species. • Can focus on native species. • Can help separate uses, e.g., sensitive ecosystem from residential or recreational use.	• Not site-specific (but can be applied through permits)
		Tree Protection (municipality) • Potential to regenerate the urban forest. • Long-term rehabilitation of watershed or landscape plans. • Can set more stringent standards for sensitive ecosystems. • Can focus on native species. • Opportunity for public education on importance of trees and native vegetation.	• Can create hazard conditions near buildings. • Can have effect of prohibiting density or use. • Defining triggering event and exceptions may be complex. • Potential for standards to be too stringent and costly to administer. • Can be difficult to enforce unless there is a witness to trees being cut.
		Watercourse Protection (municipality only) • Ability to regulate activities as well as substances going into the water (riparian habitat and water quality). • Specific to riparian sensitive ecosystem and habitat. • Can tie in impervious surface/ infiltration requirements.	• Impacts on watercourse stem from entire watershed; • bylaw usually limited to specific setback, (e.g., 30 meters) not watershed. • Conflict with subdivision servicing bylaw standards.
		Pesticide Control (municipality only) • Can control pollution entering an ecosystem. • Can create more stringent regulations adjacent to sensitive ecosystems.	• Significant public education needed before bylaw will be effective. • Not applicable to private land where significant amounts of pesticides may be used (forestry, agriculture, industrial, and commercial).

Tool for protection	Explanation of Tool	Strengths of tool	Weakness of Tool with respect to Conservation Benefits
		Alien Invasive Species (municipality only) • Can maintain sensitive ecosystems. • Can control problem plants. • Can rehabilitate sites during redevelopment as well as on an ongoing basis.	• Difficult to define triggers for bylaw because invasive species are a major issue (where to start?).
Development Cost Charge (DCC) Tax Bylaw	• Allows municipalities to collect funds for park, corridor and Sensitive Ecosystems acquisition.	• Already part of existing development/ charge process.	• Calculation of charge can be difficult. • DCC Tax has to be split between several services (parks, schools etc.), and parks are not often seen as a high priority.
Riparian Tax Exemption	• Property tax exemptions can encourage landowners to maintain the natural value of environmentally sensitive lands. They can also compensate landowners for the social and ecological benefits they provide the community, consistent with the principles of full-cost accounting. • Local governments have jurisdiction to provide tax exemptions as an incentive for owners to place conservation covenants on riparian areas of their property.	• Secures a covenant on riparian property that ensures the maintenance of the sensitive ecosystem. • Offers an incentive to property owners to consider conservation. • Win-win-win approach – the local government, landowner, and community all benefit.	• Most local governments are unwilling to "give up" tax revenue (do not see the cost benefits of dedicating riparian green infrastructure). • Considerable staff time needed to develop the program and process applications on a parcel-by-parcel basis. • Landowners may view with suspicion programs targeting a specific riparian corridor. • Without significant public education, weak rates of participation by landowners. • NOTE: A result similar to that of the riparian tax exemption could be produced if BC Assessment considered restrictive covenants in their property valuation.

Appendices

Great Blue Heron - Photo by Winnu Flickr

Appendix A: Conservation Organizations in the South Coast[29]

Organization	Region	Focus	Website
BC Nature	BC	Species and habitat, conservation policy, endangered species.	http://www.bcnature.ca/
British Columbia Wildlife Federation	BC	Protect, enhance and promote the wise use of the environment.	http://bcwf.net/index.php/about
Coastal Painted Turtle Project	South Coast	Focus on conservation and recovery of Western Painted Turtle (Coastal population).	http://lafargehomedelivery.com/community_news/the-coastal-painted-turtle-project/ (wptrecovery@gmail.com)
Ducks Unlimited Canada	Canada	Wetlands and Waterfowl.	http://www.ducks.ca/
Fraser Valley Conservancy	Fraser Valley	Land Conservation through land trusts.	http://fraservalleyconservancy.ca
Fraser Valley Invasive Plant Council	Fraser Valley	Invasive Species.	www.fraservalleyweeds.com
Fraser Valley Watersheds Coalition	Fraser Valley	Watershed protection.	http://fvwc.ca/
Invasive Species Council of Metro Vancouver	Metro Vancouver	Invasive Species.	http://www.iscmv.ca/
Langley Environmental Partners Society	Fraser Valley	Education and Stewardship.	http://www.leps.bc.ca/
Northwest Wildlife Preservation Society	BC	Environmental Education.	http://northwestwildlife.com/
Ruby Lake Lagoon Society	SCRD	Stewardship of natural environment.	http://lagoonsociety.com/lagoon-society/
Sea to Sky Invasive Species Council	SLRD	Invasive Species.	http://www.ssisc.info/blog
South Coast Bat Action Team	South Coast	Bat species.	http://www.scbat.org/

[29] This is not an exhaustive list, rather a summary of the main organizations with a specific focus on or whose work involves SEAR on the South Coast.

APPENDICES

Organization	Region	Focus	Website
South Coast Conservation Program	South Coast	Helping facilitate projects and activities to protect and restore species and ecological communities at risk.	http://www.sccp.ca
Stewardship Centre of BC	BC	Science based stewardship practices for land and water.	http://www.stewardshipcentrebc.ca/
Stewardship Pemberton	SLRD (Pemberton)	Education Protection, Restoration, of natural environment.	http://stewardshippemberton.com/
Squamish Environment Society	SLRD (Squamish)	Education, Citizen Science.	http://www.squamishenvironment.ca/event
Squamish River Watershed Society	SLRD (Squamish)	Restoration, education.	http://www.squamishwatershed.com/
Sunshine Coast Conservation Association	SCRD	Umbrella organization representing 30 local conservation groups.	http://www.thescca.ca/
Sunshine Coast Wildlife Project	SCRD	Research, Protection, Education related to wildlife habitats and species at risk.	http://www.coastwildlife.ca/
Whistler Biodiversity Project	SLRD (Whistler)	Project to catalogue native species.	http://www.whistlerbiodiversity.ca/
Whistler Naturalists	SLRD (Whistler)	Education, outreach science related to Whistler's natural environment.	http://www.whistlernaturalists.ca

Thormanby Island - Photo by Pamela Zevit

Appendix B
Example Notice for Residents Regarding Federal Species at Risk Consultation

Example notice that local governments could use to communicate with residents about a species at risk draft recovery strategy consultation taking place in their community:

Did you know our community is home to (type and name of species? E.g., a small mammal called the Pacific Water Shrew). The habitat this species needs to live includes: (describe features found in species fact sheet provided in the consultation materials. E.g., near bodies of water). Environment Canada's Canadian Wildlife Service is consulting on a draft recovery strategy document for (name of species). A recovery strategy describes what a species needs to survive and recover. You may receive information regarding this consultation process in the mail if Critical Habitat has been identified for the species and it includes your land. If you have seen this species and/or have the type of habitat described on your property you can contact Environment Canada to learn more.

Please send inquiries to:

Species at Risk Consultation Coordinator
Environment Canada
Canadian Wildlife Service
SAR.pyr@ec.gc.ca
604-350-1900

Appendix C
Example Information to Provide Developers

1) Species at Risk Act on Private Land: Overview for Developers

On non-federal lands, the Species at Risk Act requires effective protection of listed species and their Critical Habitat (i.e., the habitat the species needs to survive and recover, as identified in a final recovery strategy or action plan). The Species at Risk Act provides the provincial government, local governments, landowners and land managers with the first opportunity to protect Critical Habitat. Only if it is clear that the species and its Critical Habitat have not been effectively protected will the federal government consider implementing federal measures.

Critical Habitat is identified in final federal recovery strategies and action plans for species listed as extirpated, endangered, or threatened under the Species at Risk Act. There are a variety of ways Critical Habitat may be protected on non-federal lands. Depending on the species and location of Critical Habitat, provincial laws or municipal bylaws may apply, or there could be a federal regulation or order in place, which prohibits destruction of Critical Habitat. In some circumstances, certain activities may take place in Critical Habitat, but must occur in ways that do not result in destruction of Critical Habitat. Voluntary stewardship activities can help prevent destruction of Critical Habitat. For more information, contact Environment Canada's Canadian Wildlife Service at 604-350-1900 and visit www.sararegistry.gc.ca.

Please note that virtually all vertebrate animals are protected under the BC Wildlife Act (except as allowed by regulation) and all bird nests are protected under section 34 of the Act. It is also prohibited under the Migratory Birds Convention Act to kill, harm, harass, collect or possess a migratory bird without authorization, or destroy its nest. These same prohibitions also apply to migratory birds that are listed as Endangered, Threatened or Extirpated under the Species at Risk Act. Permits may be issued for certain purposes. For more information visit http://www.sararegistry.gc.ca/sar/permit/permits_e.cfm

2) Example 'Guide for Developers' (Nova Scotia)

http://www.speciesatrisk.ca/municipalities/resources/Guide_for_Developers_SAR.pdf

3) SARA related text to include in land development checklists

1. Find out if Critical Habitat has been identified for federally listed species at risk on the proposed development site by reviewing Critical Habitat maps, obtained by the local government through a data sharing agreement with Environment Canada's Canadian Wildlife Service (CWS), and/or by contacting CWS at: SAR.pyr@ec.gc.ca or 604-350-1900.
2. If ecosystems and species at risk or their habitat are or may be present on or within 100m of the proposed development site, it is important to ensure the Qualified Environmental Professional (QEP) involved in the project has specific expertise with these species and their habitat.
3. The QEP should review relevant provincial and federal recovery strategies. These documents can be found by searching by species at: www.sararegistry.gc.ca and http://www.env.gov.bc.ca/wld/recoveryplans/recovery_doc_table.html
4. The QEP should consult the species recovery strategy team(s) for up to date scientific advice. To obtain the appropriate contact information, contact CWS at SAR.pyr@ec.gc.ca 604-350-1900.
5. To obtain region-specific information regarding ecosystems and species at risk, bio-inventory terms of reference, sources for mapping and inventory, and other valuable information, refer to Develop with Care 2012: Environmental Guidelines for Urban and Rural Land Development in British Columbia at: http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2012/index.html.

Appendix D
Contact Information and Additional Resources

Contacts:

The following individuals can be contacted for questions related to species and ecosystems at risk, species of conservation concern, and other significant wildlife habitats in the South Coast.

Federal Representatives

For general queries and to be directed to additional expertise:

Species at Risk Consultation Coordinator
Environment Canada
Canadian Wildlife Service
SAR.pyr@ec.gc.ca
604-350-1900

Provincial Representatives

For general queries and information regarding SEAR and local governments:

Lynn Campbell Species at Risk Biologist
Ministry of Environment
Victoria, BC
Lynn.Campbell@gov.bc.ca
tel: (250) 387-9676; fax: (250) 387-9750
http://www.env.gov.bc.ca/wld/searl_gwg/

For area-specific information regarding SEAR in the South Coast Region:

Kym Welstead or Kristina Robbins
Ministry of Forests, Lands and Natural Resource Operations
Surrey, BC
Kym.Welstead@gov.bc.ca, Kristina.Robbins@gov.bc.ca

For information on provincial recovery planning please visit:
http://www.env.gov.bc.ca/wld/recoveryplans/rcvry1.htm#sixth_

For information on status ranking or occurrence data for SEAR in BC:
BC Conservation Data Centre
Ministry of Environment, Victoria, BC
CDCdata@gov.bc.ca

APPENDICES

Additional Resources:

Species at Risk Act (SARA)
http://laws-lois.justice.gc.ca/eng/acts/s-15.3/FullText.html

Wildlife Act of B.C.
http://www.bclaws.ca/Recon/document/ID/freeside/00_96488_01#section5

Forest and Range Practices Act (FRPA)
http://www.bclaws.ca/Recon/document/ID/freeside/00_02069_01

Riparian Areas Regulation (RAR)

- Law
  http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/376_2004

- Implementation Guidebook
  http://www.env.gov.bc.ca/habitat/fish_protection_act/riparian/documents/ImplementationGuidebook.pdf

BC Ministry of Environment, Ecosystems Branch
http://www.env.gov.bc.ca/wld/

BC Species and Ecosystems Explorer
http://www.env.gov.bc.ca/cdc/

Recovery Planning
http://www.env.gov.bc.ca/wld/recoveryplans/rcvry1.htm#sixth_

Develop with Care
http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2012/index.html

SEAR Local Government Working Group
http://www.env.gov.bc.ca/wld/searl_gwg/

Green Bylaws Toolkit
http://www.toolkit.bc.ca/resource/green-bylaws-toolkit


South Coast Conservation
Program