Section Six

SPECIAL WILDLIFE & SPECIES AT RISK

Summary
The habitats of special wildlife and species at risk need to be protected from development. Best management practices include:

Detailed Site Inventory
- Determine if there are special wildlife or species at risk on or near the proposed development site.

Site Planning and Design
- Design the development to retain important habitats.
- Create buffers around important habitats.

Protection During Development
- Avoid disturbing species and important habitats during development.

Protection After Development
- Design carefully for recreational use.
- Retain natural ecological processes.
- Minimise invasion by alien species.

Best Management Practices for Special Wildlife
- Follow identified best management practices for reptiles, amphibians, raptors, Great Blue Heron, sensitive ecosystems and species at risk.

This is part of a series of Best Management Practices documents.

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Special Wildlife and Species at Risk

Species at risk are flora and fauna that are considered nationally and/or provincially at risk. Special wildlife includes species that are of particular concern, regionally important species and those governed by the B.C. Wildlife Act. ‘Species at risk and special wildlife’ include plants, plant communities, fungi and invertebrates as well as mammals, birds, reptiles, fish and amphibians.

British Columbia is home to 135 species that are listed nationally by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as extirpated, endangered, threatened or of special concern. These species are managed under the Canadian Species at Risk Act. Additional species will be listed in the next year or two as provincially-ranked species are added to the COSEWIC lists.

The Province of British Columbia also maintains a list of species that are considered provincially ‘at risk,’ including red-listed species (that are extirpated, endangered or threatened) and blue-listed species (that are not immediately threatened, but are of concern). It also identifies some yellow-listed species that are of conservation concern.

Special wildlife and species at risk need particular attention to ensure their continued existence. This section focuses on best management practices to protect and enhance habitats for these species during urban and rural land development. General practices that benefit a variety of wildlife are described in Section 4: Environmental Planning and Development at the Site Level, Section 5: Environmentally Sensitive Areas and Section 7: Aquatic and Riparian Ecosystems. Planning issues focused on wildlife at a community or landscape level are discussed in Section 3: Environmental Planning at the Community Level.

6.1 BENEFITS OF SPECIAL WILDLIFE AND SPECIES AT RISK

In addition to the legal requirements to protect special wildlife and species at risk, there are many benefits to doing so. By following some basic guidelines, we can build

**PROTECTING OUR OWN INTERESTS**

- **Protecting our health:** Increasingly, we are recognising the medicinal values of many native species. For example: the bark of the Pacific Yew contains a cancer-killing agent; of Canada’s 134 native tree species, 38 have one or more recorded medical uses; and frogs provide painkillers and a treatment for schizophrenia (Canadian Wildlife Service 2004).

- **Pest control:** If you don’t like mosquitoes, make sure you provide homes for the bats and birds that consume millions of the pesky critters. Even slugs have value—consuming detritus and waste materials in the yard.

- **Mental health:** Birds at our birdfeeders, wildflowers on our walks, sightings of wildlife in our community—these enhance the quality of life in our communities and give us pause to refresh our mental health.

- **Big business:** Nature supports big business. In 1996, 2,500,000 British Columbians participated in nature-related activities, spending a total of $1,938 million and creating 34,100 jobs (Environment Canada 2000).

For more information, see Appendix A: Benefits of Environmental Protection.

1Definitions are provided in Appendix 6-1 and in the Glossary
communities that respect nature while providing quality places for people to live, work
and play, and ensure that the natural legacy persists for future generations to learn from
and enjoy.

For more information, see Appendix A: Benefits of Environmental Protection.

6.2 Objectives

The Ministry’s goals are to:

- Maintain and restore the ecological diversity of fish and wildlife species and their
  habitats; and
- Protect the environment and human health and safety by ensuring clean and safe
  water, land and air.

Local governments and the development community should meet the following
environmental objectives during urban and rural land development:

- Identify populations of special wildlife and species at risk and their habitats prior to
development planning;
- Direct development away from habitats that support special wildlife and species at risk;
- Provide and maintain adequate buffers to protect these species and their habitats; and
- Protect, and where needed restore, the habitats that support special wildlife and
  species at risk.

Local governments should address these issues within their Official Community Plan
and other planning and public consultation processes. Developers should be able to
demonstrate to local governments and the public how they have addressed these
concerns and incorporated them into their development before, during and after the
construction process.

6.3 Legal Requirements

Special wildlife and species at risk, and the habitats and ecosystems that sustain them,
must be protected from harm.

The Canadian Species at Risk Act makes it an offence to kill or harm listed species at risk
or damage their habitat on federal lands. Recovery Strategies and Recovery Action Plans
have been or are being developed for all listed species at risk. The Species at Risk Act also
consolidates requirements under the Canada Wildlife Act, the Migratory Bird Convention
Act, and the Wild Animal and Plant Regulations of the International and Interprovincial
Trade Act for the protection of special wildlife and species at risk.

The Province of British Columbia is currently developing legislation to manage species
at risk on private land and provincial Crown land in British Columbia.

The British Columbia Wildlife Act protects most vertebrate animals from direct harm or
harassment except as allowed by regulation (e.g. hunting or trapping). Legal designation
provides additional protection for selected red- and blue-listed species and their
residences. Legal designation as Endangered or Threatened species under the Act

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increases the penalties for harming a species, and also enables the protection of habitat in a Wildlife Management Area.

Section 34 of the B.C. Wildlife Act specifically protects the nests of eagles, peregrine falcons, gyrfalcons, osprey, herons and burrowing owls year-round; and the nests of all other birds when these birds or their eggs are in the nest.

6.4 Best Management Practices

The following best management practices cover the identification and protection of special wildlife and species at risk. Additional best management practices have also been developed for specific species or types of wildlife.

6.4.1 Detailed Site Inventory

**Determine if there are special wildlife or species at risk on or near the proposed development site**

- Gather available information from community or regional level mapping and inventories (see Appendix B: Sources for Environmental Mapping and Inventory and Section 4.4.2: Detailed Site Inventory). The Conservation Data Centre (CDC) can provide information on known locations of species at risk. Note that coverage by the CDC is not equally good in all areas so be aware that a lack of CDC listing does not mean the species is not found in that location.

- Review information on terrestrial and aquatic environmentally sensitive areas on or near the development site to determine if additional measures are needed to protect specific habitat requirements and concerns for special wildlife and species at risk. For more information, see Section 5: Environmentally Sensitive Areas and Section 7: Aquatic and Riparian Ecosystems.

- If the available information is inadequate, have a detailed bio-inventory of the site prepared by an appropriately qualified professional. See Section 4.4.2: Detailed Site Inventory, and Appendix C: Terms of Reference for Bio-Inventory. Note that the timing of the bio-inventory is important, as some species may only be visible or may only use the area at certain times of year. In some cases it may be necessary to inventory the site in more than one season to fully assess its ecological values.

- Provide the results of the bio-inventory to the local government, and any findings of species at risk to the Conservation Data Centre and regional Ministry of Water, Land and Air Protection Rare and Endangered Species Biologists.

- Ensure that the developer's proposal package to the local government (report and mapping) identifies critical wildlife habitats, wildlife corridors, the presence (or likelihood of presence) of any species at risk or special wildlife, recommended buffers around the site, and links to other wildlife habitats with reference to both the landscape- and the site-level features.
6.4.2 Site Planning and Design

**DESIGN THE DEVELOPMENT TO RETAIN IMPORTANT HABITATS**

☑ Work with an appropriately qualified professional to plan developments near habitats of special wildlife and species at risk, including areas with red- or blue-listed plant communities.

☑ Follow the prescribed best management practices for special wildlife and species at risk (see Section 6.4.5: Best Management Practices for Specific Wildlife). For species at risk, check with the SARA Registry and regional Ministry of Water, Land and Air Protection Rare and Endangered Species Biologists to see if recovery action plans are available for the species in question.

☑ Do not site developments (including trails) in areas known to be important habitat for special wildlife or species at risk, nor immediately adjacent to these areas.

☑ Encourage the presence of special wildlife and species at risk by incorporating habitat features (e.g. wetlands) into development plans. These features may enhance property values, and improve the quality of life and pride of ownership by area residents. See Appendix A: Benefits of Environmental Protection.

☑ Retain species-appropriate *wildlife corridors* through and around the development.

**CREATE BUFFERS AROUND IMPORTANT HABITATS**

☑ Design buffer areas around important habitats. These should be sufficiently wide to protect the ecosystems and the species living there. Appropriately qualified professionals can provide guidance on the width and design of buffers required to protect these habitats. Buffers should be on public land where possible, to provide the best long term protection. Where buffers are on private land, they should be protected by a conservation covenant or other legal mechanism, with enforcement mechanisms. For a discussion on buffers and protective measures see Section 4.4.3: Retain buffers around sensitive areas.

☑ For information on suggested buffer widths for some species or groups of species, see Section 4, Table 4.1.

6.4.3 Protection During Development

**AVOID DISTURBING SPECIES AND IMPORTANT HABITATS DURING DEVELOPMENT**

☑ Clearly delineate and fence off important habitats and buffers areas on the site prior to starting work and inform site workers of their importance, as discussed in Section 5.4.3: Protection During Development.

☑ Schedule construction activities to avoid sensitive periods such as nesting, spawning, hibernating, migration etc. The Ministry’s [regional websites](#) provide some information on timing windows, and an appropriately qualified professional can provide site-specific advice. The Ministry of Water, Land and Air Protection is currently developing a Timing Windows Best Management Practices document, and
6.4.4 PROTECTION AFTER DEVELOPMENT

DESIGN CAREFULLY FOR RECREATIONAL USE
Recreational activities may disturb wildlife.
☒ Avoid or minimise trail construction near sensitive wildlife habitats. Species such as herons may abandon their nests if trails and disturbances are too close.
☒ Locate trails away from areas where ‘at-risk’ plants grow. This will minimise concerns about people picking the flowers or inadvertently trampling the site.
☒ Require that dogs be leashed in sensitive habitats to prevent them chasing birds or other wildlife, or trampling sensitive plants.

RETAIN NATURAL ECOLOGICAL PROCESSES
Ecosystems, and the special wildlife and/or species at risk that live in them, may be dependant on natural processes such as nutrient cycling, frequent or infrequent fires, or flooding.
☒ Ensure that the natural (pre-development) hydrological cycles are maintained during and after development. Changes in drainage patterns may impact wildlife, for example by putting year-round water into an area where species are adapted to summer droughts or by changing the quality of the water.
☒ Consider (where applicable) the development of plans that include low-intensity ground fires. Many of the species at risk or special wildlife that inhabit these ecosystems need the old, open stands that were common to parts of British Columbia prior to current fire management regimes. Controlled burns must only be carried out by an appropriately qualified professional.
☒ Build well away from floodplains and allow natural flooding cycles to occur so that flood-dependant ecosystems can persist. Some species at risk and special wildlife species depend on the ecosystems that develop in response to natural flooding.

MINIMISE INVASION BY ALIEN SPECIES
Invasive alien species significantly change and disrupt the habitat of special wildlife and species at risk. By replacing native plants that provide food and shelter for the species at risk, or taking over its habitat, they endanger its existence. For more information on alien species and their management, see the Alien Species website.
Use only species native to the area in landscaping. As these plants are adapted to local ecological conditions, they usually require less maintenance once established and are therefore less expensive in the long term. For information on plants suitable for the Georgia Basin and Southern Interior of British Columbia, see the Naturescape website.

Encourage local residents to become stewards of their area, for example helping to remove alien species (both plants and animals) before they become well-established.

**6.4.5 Best Management Practices for Specific Wildlife**

The following best management practices have been developed to address the specific requirements of selected species. Future versions of this document will have sections on regionally important species (such as Yellow Breasted Chat).

**BEST MANAGEMENT PRACTICES FOR AMPHIBIANS AND REPTILES**

Amphibians and reptiles play important roles in the ecosystem both as predators and prey, and consume many species that humans consider ‘pests,’ such as insects and rodents. Many reptiles and amphibians found in prime urban and rural development areas are decreasing in number and are already identified as species at risk. However, many species are compatible with urban and rural environments if critical habitat components are maintained.

The objective for amphibians and reptiles is to avoid or minimise habitat loss and maintain viability of their populations. Maintaining pre-development hydrology is particularly critical. For more information see Best Management Practices for Amphibians and Reptiles in Urban and Rural Environments in British Columbia.

**BEST MANAGEMENT PRACTICES FOR RAPTORS**

Raptors are birds of prey and include falcons, hawks, ospreys, owls and eagles. Healthy raptor populations help to maintain a balance in populations of prey species (e.g. rodents and starlings).

The objective for raptors is to maintain their population through habitat protection, including their hunting (food source) and nesting areas. For more information see Best Management Practices Guidebook for Raptors in British Columbia: Guidelines for Integrating Raptor Conservation with Urban and Rural Land Developments.

**BEST MANAGEMENT PRACTICES FOR GREAT BLUE HERON**

Great Blue Herons are large birds of shorelines, wetlands and sloughs as well as some upland areas. Great Blue Heron nest trees are protected (whether or not in use) by Section 34 of the B.C. Wildlife Act.

The objective for Great Blue Heron is to retain feeding and nesting habitat. Nesting rookeries are of particular importance as these may serve the heron population over a wide area. Herons are particularly vulnerable to disturbance during their nesting season.
and have been known to desert a colony when disturbed. Use the buffers presented in Table 4-1 as a guide for protection of habitat for Great Blue Heron.

For more information on Great Blue Herons, see the Heron Working Group website.

**BEST MANAGEMENT PRACTICES FOR SENSITIVE ECOSYSTEMS**

Sensitive ecosystems frequently contain plants and animals at risk, and many of these ecosystems are themselves red-listed plant communities.

Sensitive Ecosystems Inventories have been completed for East Vancouver Island and Gulf Islands; Sunshine Coast; Bowen and Gambier Islands; Central Okanagan; and Bella Vista–Goose Lake Range (North Okanagan). For guidelines on the management of these sensitive ecosystems, see the Sensitive Ecosystems Inventory (East Vancouver Island and Gulf Islands) Conservation Manual or the Sensitive Ecosystems Inventory (Central Okanagan) Technical Report. (The Technical Report for the Sunshine Coast Sensitive Ecosystems Inventory is under development.)

**BEST MANAGEMENT PRACTICES FOR SPECIES AT RISK**

The federal government and Recovery Teams are working on the development of Recovery Strategies and Recovery Action Plans for all federally-listed species at risk. These Recovery Action Plans include guidelines and requirements for the protection of these species. For more information see the Species at Risk Act Public Registry.

There are also provincial recovery plans for some species. For more information on federal and provincial programs see Recovery Planning in British Columbia.

Some recovery plans cover entire ecosystems that are home to multiple species at risk. For more information see the Garry Oak Ecosystem Recovery Team and South Okanagan-Similkameen Conservation Program.

**RECOVERY PLANNING**

“A recovery strategy outlines the long term goals and short term objectives for recovering a species at risk. This includes information on what is known about the species, what we need to learn, the threats to its survival, and an identification of its critical habitat.

An action plan outlines the projects or activities required to meet the goals and objectives outlined in the recovery strategy. This includes information on the species habitat, protection measures, and an evaluation of the socio-economic costs and benefits.”

SARA Registry [http://www.sararegistry.gc.ca/plans/recovery_e.cfm](http://www.sararegistry.gc.ca/plans/recovery_e.cfm)
6.5 Useful Sources

For complete references and a more extensive reading list, see the Bibliography.

Legislation:

For a full listing of provincial government legislation, see http://www.qp.gov.bc.ca/statreg/list_statreg_1.htm


For a full listing of federal government legislation, see: http://laws.justice.gc.ca/en/


Inventory Information:

Conservation Data Centre: http://srmwww.gov.bc.ca/cdc/index.html

Conservation Data Centre known occurrences: http://srmwww.gov.bc.ca/cdc/access.html

Conservation Data Centre data requests: http://srmwww.gov.bc.ca/cdc/request.html

Conservation Data Centre report of findings: http://srmwww.gov.bc.ca/cdc/contribute.html

B.C. Species Explorer: http://srmwww.gov.bc.ca/atrisk/toolintro.html

Sensitive Ecosystems Inventories (http://srmwww.gov.bc.ca/sei/index.html) are currently available for East Vancouver Island and Gulf Islands; Sunshine Coast; Bowen and Gambier Islands; Central Okanagan; and Bella Vista–Goose Lake Range (North Okanagan).

Other Best Management Practices:

These Best Management Practices documents will be posted on the Ministry of Water, Land and Air Protection website (http://wlapwww.gov.bc.ca/wld/BMP/bmpintro.html) in the near future. Some drafts are available for review on other websites. To obtain a copy for review or to comment on these drafts, contact Marlene Caskey (Marlene.Caskey@gems7.gov.bc.ca) or Dr. Grant Bracher (Grant.Bracher@gems2.gov.bc.ca) unless otherwise noted.

Best Management Practices for Recreational Activities on Grasslands. For a copy to review, contact Bob Cox, Bob.Cox@gems5.gov.bc.ca


To contact regional Ministry of Water, Land and Air Protection offices see http://wlapwww.gov.bc.ca/main/prgs/regions.htm

Species and Ecosystems at Risk and Recovery:
B.C. Species Explorer: http://srwww.gov.bc.ca/atrisk/toolintro.html (British Columbia's species at risk)
Committee on the Status of Endangered Wildlife in Canada (COSEWIC):
http://www.cosewic.gc.ca/eng/sct5/index_e.cfm (Canadian species at risk)
Endangered Species and Ecosystems website: http://srwww.gov.bc.ca/atrisk/
Garry Oak Ecosystem Recovery Team: http://www.goert.ca/
Heron Working Group: http://www.heronworkinggroup.org/aboutwg.html
Recovery Planning in British Columbia website: http://wlapwww.gov.bc.ca/wld/recoveryplans/rcvry1.htm
South Okanagan-Similkameen Conservation Program: http://www.soscp.org/
Species and Ecosystems at Risk website: http://wlapwww.gov.bc.ca/wld/serisk.htm

Sensitive Ecosystems
Sensitive Ecosystems Inventory website: http://srwww.gov.bc.ca/sei/
Sensitive Ecosystems Inventory (East Vancouver Island and Gulf Islands) Conservation Manual:
Sensitive Ecosystems Inventory (Central Okanagan) Technical Report:

NatureScape
NatureScape British Columbia: http://wlapwww.gov.bc.ca/hctf/naturescape/about.htm

Alien Species
Alien species website: http://wlapwww.gov.bc.ca/wld/aliensp/index.html

Stewardship Publications:
All of the publications in the Stewardship Series are available at http://www.stewardshipcentre.bc.ca/sc_bc/stew_series/bc_stewseries.asp. Titles include:
Access Near Aquatic Areas; A Guide to Sensitive Planning, Design and Management
Alien species: Plants, animals and micro-organisms from one part of the world that are transported beyond their natural range and become established in a new area. They are sometimes also called "exotic," "introduced," "non-native," or "non-indigenous" species. Some alien species are also invasive.

 Appropriately qualified professional: A scientist or technologist specialising in a relevant applied science or technology including, but not necessarily limited to, agrology, forestry, biology, engineering, geomorphology, geology, hydrology, hydrogeology or landscape architecture, and who is registered in British Columbia with their appropriate professional organisation, and acting under that association's Code of Ethics and subject to disciplinary action by that association, and who, through demonstrated suitable education, experience, accreditation and knowledge relevant to the particular matter, may be reasonably relied on to provide advice within their area of expertise.

Blue-listed species: Includes any native species, subspecies or community considered to be Vulnerable (Special Concern) in British Columbia. Vulnerable species are of special concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed species are at risk, but are not Extirpated, Endangered or Threatened.

Endangered: A species facing imminent extirpation or extinction.

Extinct: A species that no longer exists anywhere in the world.

Extirpated: A species no longer existing in the wild in Canada, but occurring elsewhere. (A species listed as provincially extirpated no longer exists in the wild in British Columbia, but occurs in other parts of Canada or elsewhere.)

Invasive species: Plants, animals and micro-organisms that colonise and take over the habitats of native species. Most invasive species are also alien (non-native) to the area, and can become predominant because the natural controls (predators, disease, etc.) that kept populations in check in their native environment are not found in their new location.

Plant community: A unit of vegetation with a relatively uniform species composition and physical structure. Plant communities also tend to have characteristic environmental features such as bedrock geology, soil type, topographic position, climate, and energy, nutrient and water cycles.

Red-listed species: Includes any indigenous species, subspecies or plant community that is Extirpated, Endangered, or Threatened in British Columbia. Extirpated species no longer exist in the wild in British Columbia, but do occur elsewhere. Endangered species are facing imminent extirpation or extinction. Threatened species are likely to become endangered if limiting factors are not reversed.

Special concern: A species that is particularly sensitive to human activities or natural events but is not an endangered or threatened species.
Special wildlife: Wildlife species that have been identified in the British Columbia Wildlife Act, or that have been identified by Ministry of Water, Land and Air Protection as being of regional concern. See also red-listed and blue-listed species.

Species at risk: A species that has been defined as ‘at risk’ by either the federal or provincial government.

- Federally listed: The federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) maintains a list of species listed as extirpated, endangered, threatened or of special concern. These species are protected under the Species at Risk Act.
- Provincially ranked: The British Columbia government maintains a ranking of species considered to be “red-listed” and “blue-listed” in this province.

Threatened: A species likely to become endangered if limiting factors are not reversed.

Wildlife corridors: A travel corridor for wildlife. These range from very wide, natural corridors for large mammals, to ‘sky corridors’ that offer a safe flight path between feeding and resting places for birds, to smaller man-made corridors (such as urban trails or culverts under roads) that provide safe passage for smaller creatures. These corridors also provide year-round habitat for less mobile species.

Wildlife Management Area: Land that has been designated as a wildlife management area under the B.C. Wildlife Act.

Wildlife trees: A standing live or dead tree with special characteristics that provide valuable habitat for the conservation or enhancement of wildlife. Characteristics include large diameter and height for the site, current use by wildlife, declining or dead condition, value as a species, valuable location and relative scarcity.

Yellow-listed species: All species not included on the British Columbia Red or Blue lists. Some of these yellow-listed species are considered to be of conservation concern because they have a small range or low abundance in the province, because they have shown provincial declines, or there are perceived long-term threats.