South Okanagan Similkameen Conservation Program

Resources for Qualified Environmental Professionals

The following list of Websites, Mapping Resources and Documents are provided in support of land development planning and high quality Environmental Assessments to support Development Permits. Information is sorted by topic.

MAPPING AND DATA

BC Species and Ecosystems Explorer: Province of British Columbia data base/mapping tool providing detailed natural history and occurrence information by species and associated reference material
http://a100.gov.bc.ca/pub/eswp/

BC Conservation Framework: Province of British Columbia searchable data base provides a comprehensive list of species in the province and an assessment of conservation priorities and actions required to conserve species in BC
http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk/setting-priorities

Data BC: Province of British Columbia Data Catalogue provides the easiest access to government's data holdings, as well as applications and web services. Thousands of the datasets are available in a variety of formats. https://data.gov.bc.ca/

Hectares BC: Province of British Columbia pilot project provides a tool for geospatial natural resource data analysis. This tool provides a mechanism to create simple queries that combine data sets and quantify results by area. http://hectaresbc.org/app/habc/HaBC.html

IMAP BC: Province of British Columbia Arc view mapping tool facilitating review and map making using of a wide variety of fish, wildlife, land, water and human use data. Some of the useful data available includes:
- Conservation Data Centre Species Occurrences
- Species inventory including Wildlife Species Inventory
- Water licenses and Aquifers (Points of Diversion)
- Lot boundaries (Integrated Cadastre)
- Large Lakes Protocol (Kokanee Habitat Zones, Foreshore Plant Habitat, Mussel Habitat Zones)
- BEC zones, etc.

http://maps.gov.bc.ca/ess/sv/imapbc/

Open Government Portal: Government of Canada website for federal government documents/maps including Critical Habitat, bird conservation regions database and other federal data.
http://open.canada.ca/en/

Water License Reports: Province of British Columbia website provides detailed reports on water licenses. License numbers can be obtained from IMAP BC (see above).
http://a100.gov.bc.ca/pub/wtrwhse/water_licences.input

Okanagan Invasive Species Online: OASISS online tool to find known locations of invasive species and get help identifying invasives. https://www.oiso.ca/

LEGISLATION, POLICY AND BEST MANAGEMENT PRACTICES

Parks and protected areas
BC Parks: Province of British Columbia website provides locations, conservation and planning information about provincial parks and protected areas.
http://www.env.gov.bc.ca/bcparks/

Environment and Climate Change Canada: Government of Canada website provides background on management policy and mandate, including management direction related to Migratory Bird Sanctuaries and National Wildlife Areas in Canada which may be of assistance to those working on or on federal lands surrounding Vaseux Lake.
https://www.canada.ca/en/environment-climate-change.html

Species and ecosystems
Accessing Species and Ecosystems Secure Data and Information: Province of British Columbia "Species and Ecosystems Susceptible to Persecution or Harm", and the "Species and Ecosystems Secure Data and Information Policy and Procedures" can be found at this Province of British Columbia website. This information clarifies how to obtain sensitive occurrence data, why some data requires special permission and lists the species that are addressed under the policy.
http://www2.gov.bc.ca/gov/topic.page?id=24C3179F7D764A8F906DB352B98253D2

***Envi*ronmental Mitigation Policy:** Province of British Columbia provides detailed policy advice on mitigation of Environmental impacts associated with natural resource development and land use.
http://www.env.gov.bc.ca/emop

Incidental Take/Avoiding Harm to Migratory Birds: Government of Canada website that assists QEPs in work that involves interpretation of regulations related migratory birds and the concept of Incidental Take.
https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/guidelines.html
https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

Migratory Birds Convention Act: Government of Canada website addresses the Act, regulations and FAQs related to Migratory Birds Convention Act (MBCA). The second link is a published paper that may assist qualified professionals in addressing Migratory Birds in Environmental Assessments.
https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/convention-act-regulations.html
http://publications.gc.ca/site/eng/367511/publication.html

Recovery plans: Province of British Columbia websites provides general background about agencies that lead recovery plans and sources of planning information is available (see first weblink listed below). Recovery plans that the Government of BC has accepted as science advice are available also provided (see second link).

http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk/recovery-planning

http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk/recovery-planning/recovery-planning-documents/recovery-planning-documents

SARA Registry: Government of Canada searchable database for species at risk. This site provides applicable federal documents and supporting links to data about species evaluated by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). Documents include federal recovery plans, status reports, action plans, management plans and other supporting information.
http://www.registrelep-sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1

Species at Risk Act (SARA) considerations under the Canadian Environmental Assessment Act: These websites provide guidance on how certain SARA requirements may be addressed at each step of an environmental assessment conducted under the Canadian Environmental Assessment Act (CEAA). The second link compliments the first and provides a checklist (support tool for the required information for CEAA assessments to address SARA). While CEAA is not applicable to local government development permits, guidance in this document may generally assist QEPs in preparing environmental assessments related to development planning.
https://www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-species-at-risk-act.html
https://wildlife-species.canada.ca/species-risk-registry/document/default_e.cfm?documentID=2101

Water, Riparian Areas, Docks, Septic Management and Related topics
Front Counter BC Information on Dock Rules and Applications: Province of British Columbia website provides information on the process required to obtain and construct a waterfront dock.
https://www2.gov.bc.ca/gov/content/industry/crown-land-water/crown-land/crown-land-uses/residential-uses/private-moorage

https://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems

Kokanee Shore Spawning Sites (Okanagan Region Large Lakes Protocol): Province of British Columbia information on known Kokanee spawning sites is now available on the public portion of IMap BC (see first weblink listed below). Supporting reports on the protocol are also available (see second weblink listed below).

http://maps.gov.bc.ca/ess/sv/imapbc/
http://www.env.gov.bc.ca/okanagan/esd/ollp/ollp.html

Okanagan Lakeshore Living: An resource that helps explain lake shoreline management practices that also protect environmental values.
http://lakeshore-living.okcp.ca/

Projects Near Water: Government of Canada, Department of Fisheries and Oceans website provides federal direction on projects near water and the conditions in which various federal approvals or regulations such as the Fisheries Act, and Species at Risk Act may apply. www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html

Riparian Areas Protection Regulation (RAPR): Province of British Columbia website provides provincial direction related to RAR including updated RAPR Assessment Methods. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/fish/riparian-areas-regulation

Sewerage System Standard Practice Manual: Province of British Columbia website provides reference materials for wastewater practitioners responsible for planning, installing and maintaining onsite sewage systems. It may provide insight for QEPs addressing issues related to the location of septic fields and also provides a link to the Onsite Wastewater Consumer Information Centre to help BC property owners obtain information regarding their onsite sewage systems. http://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems/sewerage-system-standard-practice-manual

Timing Windows: Province of British Columbia website provides policy advice related to timing windows for work that has potential to affect species (e.g. fish, birds, amphibians etc.), and sensitive ecosystems (e.g. working around water and riparian habitats)**.** http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/working-around-water/regional-terms-conditions-timing-windows

Working around Water: Province of British Columbia website provides direction on measures required to comply with the Water Sustainability Act, work windows for instream work, water license approval requirements and other direction related to working near and around water. https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/working-around-water

Best Management Practices
British Columbia Best Management Practices: Province of British Columbia website provides links to commonly used best management practices and guidelines documents used by qualified professionals and landowners. Topics include Instream Works, Wetland Identification, Reptiles and Amphibians, Waterline intakes, Determining Lake High Water Mark, Lakeshore Stabilization, Tree Topping, Boat Launch installation and maintenance, Plant Species at Risk Fact Sheets, and Freshwater Mussel Fact Sheets. http://www.env.gov.bc.ca/wld/BMP/bmpintro.html

Building Climate Resilience in the Okanagan: A Homeowner's Resource Guide: This guide summarizes climate challenges and introduces solutions to support Okanagan homeowners in their efforts to protect and enhance their properties. The goal of the guide is to raise awareness and identify key actions homeowners can take to protect properties from flood, drought, fire, and invasive species. Directed at both new owners and long-time residents, this guide illustrates cost-effective investments that create safer, more resilient communities and provides and illustrates simple options to modify homes and landscaping. This guide may be helpful for QEPs communicating with homeowners about environmental issues and climate friendly practices.

http://www.rdosmaps.bc.ca/min_bylaws/PublicWorks/Building_Resilience_GuidebookZK/SOREBRDOS.pdf
http://www.soreb.org/PublicSitesIncludes/documents/south_okanagan/BuildingClimateResilience.pdf

Develop with Care: Province of British Columbia website provides 2014 environmental guidelines for Urban and Rural Land Development provided by the Province of British Columbia, Ministry of Environment. Guidelines for Amphibian and Reptile Conservation, Raptor Conservation and Urban Ungulate Conflicts are also available at this website.
https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/best-management-practices/develop-with-care

Ecosystem Services Toolkit:
This is a resource to support ecosystem services assessments to support decision-making. It may have specific value in designing effective processes that address the services that nature provides. This resource helps value ecosystem services as part of infrastructure to help local governments, planners, qualified professionals and others determine needs and options for managing water, pollination, energy needs, fire, and other services based in natural areas.
https://biodivcanada.chm-cbd.net/sites/biodivcanada/files/inline-files/2017_Ecosystem_Services_Toolkit.pdf

Natural Resource Best Management Practices and Guidelines: Province of British Columbia website provides provincial and regional guidelines on various subjects including bats, low elevation wetland determination (Wetland Ways) and guidance related to forestry practices and Williamson's Sapsucker.
http://www.env.gov.bc.ca/okanagan/esd/bmp.html

Resources Inventory Standards Committee (RISC): Province of British Columbia website provides standards for inventory of a variety of species and ecosystems. These are standards that QEPs should be familiar with and be using where inventories are required in association with inventory, where needed to complete environmental assessments.
https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/inventory-standards

Riparian Areas Regulation Brownfield Site Revegetation Guidelines: Province of British Columbia website provides a guide for qualified professionals to support restoration of brownfield areas applicable to riparian assessments.
http://www2.gov.bc.ca/gov/DownloadAsset?assetId=0AB0538DE6A64244A2804FC95761D523&filename=rar_reveg_guidebk_sept6_2012_final.pdf

REFERENCES, UNPUBLISHED REPORTS AND OTHER USEFUL MATERIALS TO SUPPORT PREPARATION OF ENVIRONMENTAL ASSESSMENTS

Biodiversity Conservation Analysis and Mapping for the South Okanagan Similkameen Region: Keeping Nature in Our Future Volume 1 (September 2011)"is a guiding biodiversity conservation document for the South Okanagan-Similkameen. This analysis forms the foundation for Environmentally Sensitive Development Permit mapping and describes strategies for protecting biodiversity in the region.
http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=23903

(Important) Bird Area Mapping: This website provides detailed information on five major locations that support a high diversity of birds and their habitats including: White Lake, Vaseux Lake, Osoyoos Oxbows, Chopaka East-Kilpoola Lake, and Chopaka Customs. Where developments are proposed within these areas, assessment reports should address this and consider relevant information from this website. Inventory and sightings in these areas can also be reported through this website.
http://www.ibacanada.ca/explore_how.jsp?lang=EN

Bird Nest Monitoring (Cornell Protocol): This website provides professional advice to QEPs on appropriate protocols for nest searching and data collection for nesting birds.
http://www.birds.cornell.edu/bbimages/PDFs/NestWatchManual.pdf

Bird Studies Canada Breeding Bird Atlas: This tool describes the distribution, abundance, habitat and conservation of about 320 species of birds based on data collected between 2008 and 2012. This tool provides maps, species accounts, graphs, tables, and raw data for a variety of BC bird species and can help QEPs determine what species are likely to be present in a particular area and what is known about their natural history, timing of breeding etc.
http://www.birdatlas.bc.ca/

Bird Studies Canada Nest Calendar Query Tool: This tool helps determine the timing of nesting Canadian Birds. It can be used to help design the timing of inventory and to establish appropriate windows for development activities, to avoid disturbance of nests or birds and to comply with applicable legislation that protects nests and birds.
http://www.birdscanada.org/volunteer/pnw/rnest/warning.jsp

Climate Change: These websites provide international and regional perspectives and information about Climate Change
http://www.ipcc.ch/
www.pacificclimate.org/
http://cfcg.forestry.ubc.ca/projects/climate-data/climatebcwna/

Connectivity: This resource describes a process for designing and implementing ecosystem connectivity. It provides advice on recognizing connectivity elements and methods of planning for and enhancing connections between ecosystems.
http://a100.gov.bc.ca/appsdata/acat/documents/r42389/Part3DesigningandImplementingEcosystemConnectivit_1405351562655_5351338661.pdf

E-Fauna: Electronic atlas of the fauna of British Columbia. With a similar format to E-Fauna, this site provides natural history, status, photos, occurrences, and other related information for wildlife known to occur in BC. The database provides a search function.
http://ibis.geog.ubc.ca/biodiversity/efauna/

E-Flora: Electronic atlas of the flora of British Columbia. This site provides natural history, status, photos, occurrences, and other related information for plants known to occur in BC. The database includes a search function.
http://ibis.geog.ubc.ca/biodiversity/eflora/

Ecocat: Province of British Columbia website provides a catalogue with links to a variety of references related to fish, wildlife, water and other science research. This library can be searched and provides links

to best management practices, strategies, reports, historical file notes and various other "grey" literature often not available elsewhere.
http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/libraries-publication-catalogues/ecocat

Living by Water Project: Website produced by BC Nature (Naturalists of British Columbia) provides direction to waterfront property owners relative to management of shorelines to promote healthy lakes and water quality. This resource may be useful to QEPs addressing RAR assessments and Environmental Assessments and seeking additional information to support restoration or conservation of shoreline habitats. This easy to read resource uses pictures, diagrams and specific techniques that may be useful in discussion with landowners developing waterfront or streamside properties.
http://www.bcnature.ca/projects/completed-projects/living-by-water/

Living with Wildlife in BC: Resource materials that provide advice related to conflicts with wildlife. These may support effective mitigation of impacts to wildlife associated with development.
http://www.rdos.bc.ca/departments/public-works/wildsafe-bc-bear-aware/living-with-wildlife-in-bc/

Mapping Tools: A variety of non-government mapping tools are available to view mapping data layers and make simple maps.
- Okanagan Habitat Atlas: http://cmnmaps.ca/OKANAGAN/
- British Columbia Wetland Atlas: http://cmnmaps.ca/WETLANDS/

Naturescape BC, Native Plant and Animal Booklets: These guides provide specific plant species suitable for restoration and enhancement on properties in the Southern Interior, Georgia Basin and other areas.
https://www.hctfeducation.ca/product/naturescape-southern-interior-native-plant-animal-guide-pdf/

Native Plant Lists and Sources:
- Okanagan Xeriscape Association http://okanaganxeriscape.org/plant-database

- Sagebrush Nursery, 38206 93rd Street, Mailing Address: RR2 S23 C10 Oliver BC V0H 1T0 T: 250.498.8898 www.sagebrushnursery.com

- Interior Land Reclamation Nursery 9071 Shanks Road Winfield BC V4V 1M4 T: 250.862-1870 E: sales@ilrltd.com www.ilrltd.com/native-plants/native-plant-nursery

Objectives and Strategies (and Mitigation): This guide provides advice and strategies for writing measurable objectives. This advice can also be applied to writing measurable mitigation strategies with clear detail to support desired outcomes. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/policies-guides/writing_resource_objectives_strategies.pdf

Okanagan Similkameen Stewardship Publications: This website provides a variety of publications to help landowners and professionals learn more about options and advice on management of key features, habitats and species. This website provides information about *living in nature* including: wetlands, grasslands, Ponderosa Pine forests, riparian and cottonwood ecosystems. It addresses management for a variety of species at risk and also provides advice on management of invasives, and fireproof landscaping.

https://www.osstewardship.ca/resources
https://soscp.org/caring-for-your-space/

South Okanagan Similkameen Conservation Program (SOSCP): The South Okanagan Similkameen Conservation Program is a partnership of fifty organizations that work together to conserve the unique biodiversity and environment of this region. This website provides background on partners and resources provided by the region's conservation program including additional mapping and planning resources related to the biodiversity strategy (Keeping Nature in our Future), a local and regional parks review, and primers that identify opportunities and priorities to strengthen conservation by rural area, and municipality.
http://www.soscp.org/biodiversity/

Wetland Identification Province of British Columbia websites that provide guidance on wetlands identification.
https://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh52.htm
http://www.env.gov.bc.ca/wld/wetlands.html
http://a100.gov.bc.ca/pub/eirs/viewDocumentDetail.do?fromStatic=true&repository=BDP&documentId=12400
http://www.obwb.ca/wetlands/

Wildlife Incidental Observations Form: This is a website that allows qualified professionals and other experts in identification of wildlife and plants to report observations of species they have observed. These observations are added to Wildlife Species Inventory (WSI) information provided on IMAPBC for use in future project and conservation planning.
http://a100.gov.bc.ca/pub/wiof/locationForm.do

COMMUNITY SPECIFIC RESOURCES

Summerland:
Guide to sensitive natural areas: This document provides planning information to support QEPs and landowners planning developments in areas with sensitive habitats and species in this community.
https://www.summerland.ca/planning-building/planning-development

Official Community Plan: This document guides the District's decisions concerning planning and land use management in accordance with the Local Government Act and includes specific policies, guidelines and exemptions relative to Development Permits. https://www.summerland.ca/planning-building/official-community-plan

Terms of Reference: This *Terms of Reference Professional Reports and Technical Studies* provides the district's guidance on preparation of assessment reports in support of development applications.
https://www.summerland.ca/docs/default-source/default-document-library/300-4-professional-reports-and-technical-studies-terms-of-reference1bd19d5cf68d6e33909cff00007e7f94.pdf?sfvrsn=1c5cf3fb_0

Forms and Guidelines: This website provides forms and brochures to support landowners and their agents in submission of development permits and other applications related to development.
http://www.summerland.ca/planning-building/forms-guidelines