

---

# Develop with Care

---

## Site Inventory and Conservation Evaluation

# D

Environmental Guidelines for Urban and Rural Land Development in British Columbia

March 2006

### Appendix D

#### SITE INVENTORY AND CONSERVATION EVALUATION

D.1	Introduction.....	3
D.1.1	Site Inventory versus Conservation Evaluation .....	3
D.2	Preliminary Site Survey .....	3
D.3	Detailed Site Inventory.....	9
D.4	Conservation Evaluation .....	9
D.5	Selection of Appropriately Qualified Professionals .....	9

Link to: [Table of Contents](#)



## Appendix D: Site Inventory and Conservation Evaluation

### D.1 INTRODUCTION

The Ministry of Environment strongly recommends performing a site assessment before development options are considered to ensure that there is sufficient information to make sound planning and development decisions. This assessment—including both site inventory and conservation evaluation—applies to both urban and rural land developments.

Local governments should require developers to conduct a site assessment **before any land clearing takes place and before development design begins.**

Terms of reference and more detailed information on the inventory and evaluation processes can be found in the *Terms of Reference for Urban and Rural Site Inventory and Conservation Evaluation*.<sup>1</sup> This appendix summarizes the steps in the assessment process which involve a preliminary site survey, followed by a detailed site inventory and conservation evaluation. Checklists are provided to help determine if the completed report addresses all of the appropriate topics.

#### D.1.1 Site Inventory versus Conservation Evaluation

Inventory and evaluation are distinctly different processes.

A site inventory provides the ecological data. This may include information on plant communities, aquatic and terrestrial habitats, sensitive ecosystems, the presence or absence of animal and plant species, adjacent land uses, slope stability, flood potential, and other factors that might affect the development. This information is needed to determine the conservation value of a site, as well as for site layout and development planning. The site inventory includes a preliminary site survey and more detailed site inventory, if required.

A conservation evaluation analyses and interprets the inventory data. Environmentally valuable resources may be given 'high' or 'low' conservation values, based on a variety of factors such as the significance of the resource. Together the inventory and evaluation provide information that is critical for determining features that should be protected during land development.

### D.2 PRELIMINARY SITE SURVEY

The purpose of the preliminary site survey is to determine if there are environmentally valuable resources on or adjacent to the proposed development site. This survey usually begins with a search for existing data about the site and surrounding area, as well as ecosystem and/or species mapping and aerial photographs. If the property is a brownfield or greyfield redevelopment with limited natural features, the landowner may be able to carry out the assessment. However, the Ministry

---

<sup>1</sup> This document is under development and will be posted to the Ministry [Guidelines](#) website during 2006. If it is not found on this website, please contact Marlene Caskey ([Marlene.Caskey@gov.bc.ca](mailto:Marlene.Caskey@gov.bc.ca)) for updated information.



recommends that an appropriately qualified professional be hired to do the on-site survey for all other development properties.

All existing inventory information should be gathered early in the planning process so that data gaps can be identified and addressed, potential environmental impacts identified, and mitigation measures developed. Even brownfield and greyfield sites should be checked with the [Conservation Data Centre](#) for the possible presence of rare species. **Appendix C** provides a compendium of information sources which may assist with the collection of existing site information.

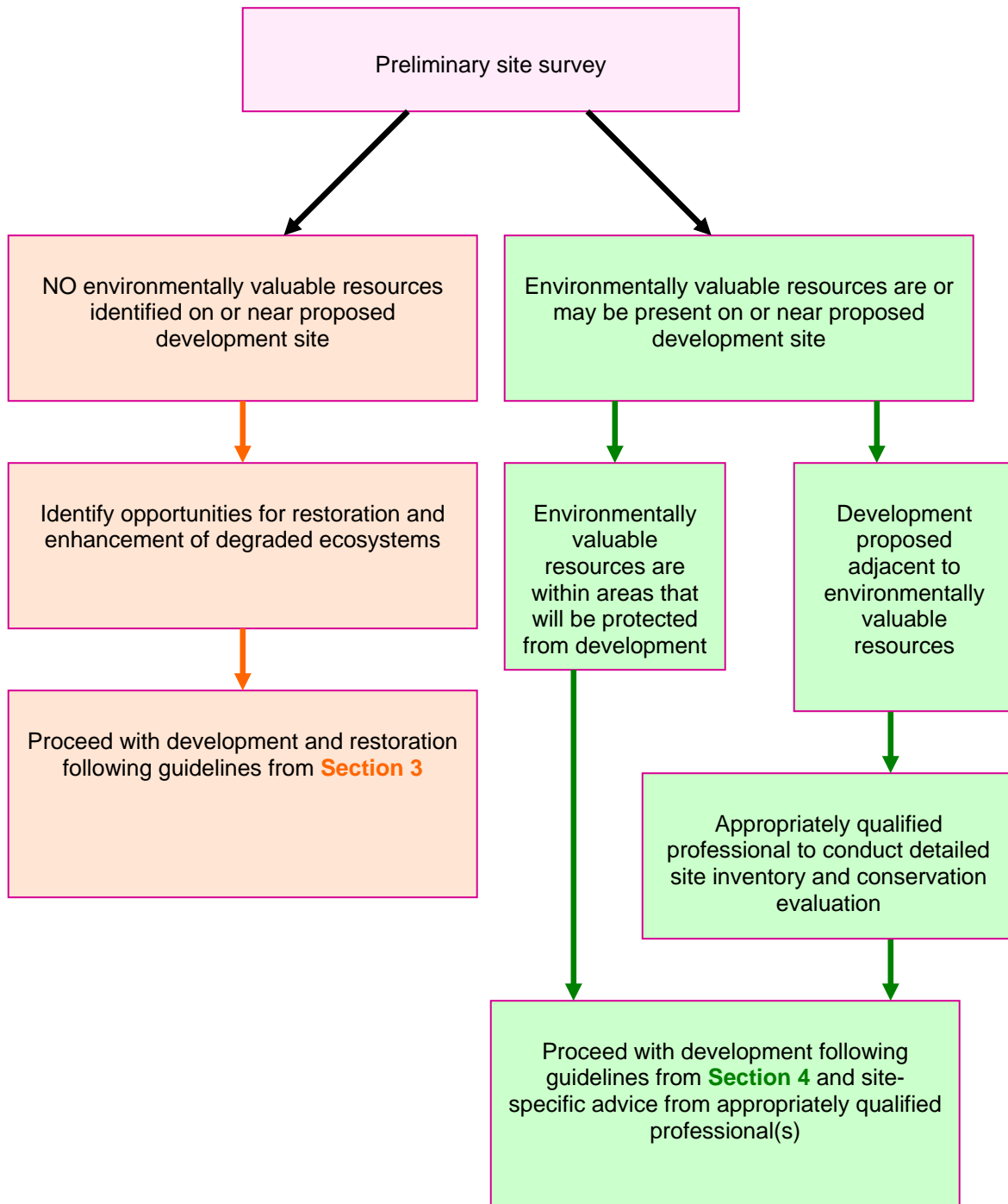
A field inspection of the site is required for the preliminary site survey. If existing inventory information is comprehensive and recent, fieldwork may be limited to a brief site inspection to verify the data and determine if any changes have occurred on the site since the data was collected. Opportunities for restoration and enhancement may also be identified during this survey.

Data gaps and the presence or absence of environmentally valuable resources are identified using a checklist (Table D-1). If the preliminary survey determines that there are no environmentally valuable resources on or within 100 metres of the development site, a detailed site inventory is not required and the development should proceed following the guidelines in **Section 3**. If there are (or may be) environmentally valuable resources, a detailed site inventory will be required (Figure D-1).

As well, if the development plan leaves the environmentally valuable resources within designated protected areas or greenspaces and with appropriate buffers, then no further inventory information needs to be collected. Note that if any kind of development or public access is planned for these areas (including trail development), then further inventory and conservation evaluation will be needed in order to ensure the long term protection of the environmentally valuable resources.



Figure D-1: Identifying the need for a detailed site inventory.





**Table D-1: Checklist for Preliminary Site Survey**

Note: A check in the 'yes' or 'unknown' column either on site or nearby means that a detailed site inventory is required.

Note: 'Near' development site means within 100m.

Environmentally valuable resources on or near development site	Yes	No	Unkn own	Comments
Terrestrial ecosystems in relatively unmodified state: <ul style="list-style-type: none"> <li>◆ older forests or mature forests</li> <li>◆ second growth forests</li> <li>◆ grasslands/shrub /herb communities</li> <li>◆ deciduous woodlands</li> <li>◆ coastal bluffs</li> <li>◆ sparsely vegetated (e.g., sand dunes)</li> <li>◆ islands</li> </ul>				
Ecosystems at risk <ul style="list-style-type: none"> <li>◆ ecological communities on Conservation Data Centre Red or Blue Lists</li> <li>◆ sensitive ecosystems (ecosystem types identified by Sensitive Ecosystems Inventories)</li> <li>◆ areas identified as environmentally sensitive areas by local governments</li> </ul>				
Aquatic or riparian ecosystems: <ul style="list-style-type: none"> <li>◆ seasonal or permanent watercourses (streams, creeks, rivers, ditches)</li> <li>◆ seasonal or permanent wetlands, seepage areas, or vernal pools</li> <li>◆ lakes or ponds</li> <li>◆ riparian ecosystems beside these aquatic ecosystems and vegetated gullies</li> </ul>				
Species at risk and their habitats <ul style="list-style-type: none"> <li>◆ species at risk identified by COSEWIC</li> </ul>				

**APPENDIX D: SITE INVENTORY AND CONSERVATION EVALUATION**



Environmentally valuable resources on or near development site	Yes	No	Unkn own	Comments
<ul style="list-style-type: none"> <li>◆ species on provincial Red and Blue Lists</li> <li>◆ regionally significant species</li> <li>◆ habitats for any of these species</li> </ul>				
Significant habitat features: <ul style="list-style-type: none"> <li>◆ wildlife trees, snags, mature, large-limbed trees</li> <li>◆ rotten logs and other woody debris</li> <li>◆ caves</li> <li>◆ talus slopes</li> <li>◆ cliffs and rocky outcrops</li> <li>◆ seasonally flooded fields</li> <li>◆ hedges and shelterbelts</li> <li>◆ groundwater springs and seepages</li> <li>◆ old buildings</li> </ul>				
Areas of significant wildlife use by wildlife, e.g.: <ul style="list-style-type: none"> <li>◆ wildlife corridors</li> <li>◆ ungulate winter ranges; spring forage sites</li> <li>◆ den sites (badger, snake, etc)</li> <li>◆ raptor or heron nest sites</li> </ul>				
Protected areas nearby				

Hazards on or near development site	Yes	No	Unkn own	Comments
Floodplains or tsunami hazard				
Unstable slopes or erosion potential				
Wildlife conflicts (e.g., rattlesnakes, predator travel corridors)				
Wildfire hazard				





### D.3 DETAILED SITE INVENTORY

A detailed site inventory provides the information needed for the conservation evaluation and to help with development layout. This inventory and evaluation should be conducted by appropriately qualified professionals. To minimize conflict related to perceived biases and/or accuracy of reporting, the Ministry recommends that:

- a) the local government hire the appropriately qualified professional(s) to perform the detailed site inventory and conservation evaluation,
- b) the local government oversee the work of this consultant(s), and
- c) the proponent pays the cost of this service.

For a checklist of information to be gathered during the detailed site inventory and methodologies for data collection and site conservation evaluation, see the *Terms of Reference for Urban and Rural Site Inventory and Conservation Evaluation* and Figure D-2. Local governments should ask to see a completed checklist such as Figure D-2 when considering development approvals.

### D.4 CONSERVATION EVALUATION

Once the appropriately qualified professionals have gathered the information data from the detailed site inventory, they will be able to conduct a conservation evaluation. Conservation evaluation analyses and interprets the inventory data, and assigns comparative values to the various ecological elements and features of a site, taking into consideration the on-site and off-site links among them. The method involves ranking the ecosystems within a site, as well as ranking the site as a whole, so that the developer or land use planner can see what parts of the site have high conservation values at a provincial and regional scale, and also see how the conservation values of the elements and features present on the site compare with one another. The information provided can help developers and planners to create plans which preserve the features of highest conservation value.

For more information, see the *Terms of Reference for Urban and Rural Site Inventory and Conservation Evaluation*.

### D.5 SELECTION OF APPROPRIATELY QUALIFIED PROFESSIONALS

The Ministry of Environment cannot recommend specific environmental consultants. It is the responsibility of the developer and/or land development approving agency or authority to assess the qualifications of consultants.

Visit the Association of Registered Professional Biologists website for further information regarding registered biologists standards and qualifications: <http://www.apbbc.bc.ca/>. Please also note links concerning the College of Applied Biology at <http://www.cab-bc.org/>.



Figure D-2: Detailed assessment checklist for appropriately qualified professionals

## Detailed Assessment Checklist for Appropriately Qualified Professionals

**NOTE 1:** professionals conducting these assessments should refer to the *Terms of Reference for Urban and Rural Site Inventory and Conservation Evaluation* for further information and guidance.

**Note 2:** This checklist may be updated from time to time. Please check the *Terms of Reference* for the most recent version.

- Yes       No       1. Are there environmentally valuable resources (EVRs) at the site or within 100 metres? (include details with the preliminary site survey). If no, conduct applicable inventories before continuing this checklist or explain why they are not necessary.

Indicate which ones apply by putting a checkmark in the box

<input type="checkbox"/>	Aquatic or riparian ecosystems	<input type="checkbox"/>	Species at risk and their habitats
<input type="checkbox"/>	Significant habitat features	<input type="checkbox"/>	Ecosystems at risk
<input type="checkbox"/>	Areas of significant use by wildlife:	<input type="checkbox"/>	Terrestrial ecosystems in relatively unmodified states
<input type="checkbox"/>	Other (describe)		

- Yes       No       2. Have inventories/assessments been carried out on these environmentally valuable resources?
- Yes       No       3. Are the EVRs being protected during and after development?
- Yes       No       4. Is a map included showing the location of all EVRs in relation to proposed development layout?
- Yes       No       5. Where records of species at risk are scarce or non-existent and habitats for those species exist or capability mapping indicates habitat is available, have additional inventories been undertaken? If no, conduct applicable inventories before continuing this checklist or explain why they are not necessary.
- Yes       No       6. Have these additional inventories identified any species at risk?
- Yes       No       7. Does the site plan avoid development within or near EVRs? If yes, go to #8; if no, have all other options been considered? Explain.
- Yes       No       8. 4) Are there adequate buffers between the proposed development and EVRs?
- Yes       No       9. Has connectivity been maintained between sensitive habitats within the

