Peregrine Falcon [Photo by Chris Lee]

Wildlife Assessment Report Guidelines

May 2010

Abbotsford's residents are justifiably proud of the majestic beauty of their city which includes vistas of many mountain ranges on both sides of the International border. Abbotsford is home to a wide variety of habitat, including steep escarpments, forested slopes, sandstone rock faces, second growth and old growth forest, dry bluffs, creeks, and riparian areas. There is an abundance of wildlife in our city; in fact, in contrast to most of the Metro Vancouver region, Abbotsford is home to large mammals such as cougars, black bears and bobcats. Many endangered species of animals and plants are found here including over 40 species classified as at-risk, counting 22 species currently listed on the federal *Species at Risk Act* reside in Abbotsford. Over 30 of these species-at-risk are located on Sumas Mountain, well-known both regionally and provincially as a biodiversity hotspot.

In recent years, there has been an increased community awareness of the need to conserve, protect and restore the natural environment. Maintaining high levels of biodiversity supports ecosystem services and social benefits. Natural ecosystem processes and services include things such as maintenance of air quality, contribution to climate stability, soil development, stormwater management, water purification, pollination, and erosion prevention. Social benefits include spiritual, cultural, recreational and aesthetic values. The cost of replacing these free services would be extremely expensive. It therefore makes economic and development sense to move towards sustainability.

Phantom Orchid [Photo by Dennis Knopp]

What is Wildlife?

Wildlife includes all plant and animal species, and includes amphibians, mammals, reptiles, invertebrates, fish, etc.

Management of wildlife/species-at-risk (and their habitats) in Canada is under the jurisdiction of the federal and provincial governments. While the City of Abbotsford (City) does not have direct jurisdiction for wildlife/species-at-risk, the City has an interest in ensuring development/activities are consistent with senior government legislation, best management practices (BMPs), guidelines, expectations etc., as this ensures development/activities align with the City's Charter of Sustainability and Official Community Plan (e.g. Strategy #2 - Protecting Our Natural Environment). Moreover, completion of Wildlife Assessment Reports demonstrates due diligence in ensuring that wildlife/species-at-risk issues are suitably addressed in compliance with senior government legislation.

To ensure wildlife (including species-at-risk) are protected, the City requires applicants to demonstrate they have suitably addressed wildlife/species-at-risk requirements and expectations of senior government. Assurances may include the proponent providing the City with copies of senior government approvals, copies of correspondence with senior government regulatory agency staff (if applicable), or statements from qualified environmental professionals (e.g. RPBio) accepting responsibility for the proposed development/activity with respect to legislative compliance, impact, mitigation etc. The above information requirements will be addressed in a *Wildlife Assessment Report* submitted to City staff. City staff will review information from the qualified professional for the above-noted assurances and ensure it is consistent with the City's Official Community Plan for protecting natural areas.

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Typically, the City will request a *Wildlife Assessment Report* at the time of a proposed land use change for properties containing minimal existing development, or for properties adjacent to minimally developed land. City environmental staff can assess your specific project to determine if it requires a *Wildlife Assessment Report*. The *Wildlife Assessment Report* is a critical component of the land use planning phase of a development proposal. It assesses existing biological and physical conditions at the very onset of the development approval process by documenting, among other things, sensitive ecosystems and the species therein, identifying Environmentally Valuable Resources (EVRs), impacts from proposed development, recommended mitigation measures, and where appropriate, potential habitat enhancement/protection opportunities. Integrating this information into the early stages of land use planning is essential to making land use decisions that meet the expectations of the land manager, the City, and senior government.

These Guidelines are intended for property development applicants and their consultants, and the *Wildlife Assessment Report* is to be prepared, signed and sealed by a Qualified Environmental Professional[1] (QEP). The professional(s) should have local experience with regard to sensitive ecosystems and wildlife species of the Lower Mainland region, and be familiar with all applicable inventory standards and published Best Management Practices (BMPs).

Environmentally Valuable Resources include:

- Species and ecosystems at risk
- Aquatic and riparian ecosystems
- Older forests or mature forests
- Second growth forests
- Natural meadows and grasslands
- Cliffs and rocky outcrops
- Wildlife trees
- Caves
- Coarse woody debris
- Wildlife mineral licks
- Nesting and denning sites
- Wildlife travel corridors
- Raptor or heron nest sites

Mountain Beaver den
[Photo by Ryan Durand]

The purpose of this document is to describe what information is needed to meet the requirements of a *Wildlife Assessment Report*. The information is adapted from the BC Ministry of Environment's (MoE) document *Develop With Care: Environmental Guidelines for Urban and Rural Land Development in BC* (March 2006). Information from the above-noted document is summarized herein for convenience purposes and readers are directed to the source document for more details. Questions regarding content and interpretation should be directed to the document authors.

Note: This information is provided for convenience only and is not in substitution of applicable City Bylaws or Provincial or Federal codes, laws, or permits (e.g. Provincial Water Act, Contaminated Sites requirements, Canadian Environmental Assessment Act approvals, Wildlife Permits, etc). It is the applicant's responsibility to ensure that any existing or proposed construction or other works complies with any applicable Bylaws, Codes, laws or permits.

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[1] A "Qualified Environmental Professional" means an applied scientist or technologist who practices in a relevant applied science or technology field including, without limitation, the field of agrology, forestry, biology, geomorphology, geology, hydrology, hydrogeology, or landscape architecture, whether acting alone or together with another qualified environmental professional, if

(a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association,

(b) the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and

(c) the individual is acting within that individual's area of expertise.

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Bio-inventory Process

A bio-inventory involves a Preliminary Site Survey and may require a Detailed Site Inventory and report. The bio-inventory is based on existing biological and physical conditions, or such conditions prior to any preparatory site disturbances. If the works have been started without an assessment, the applicant must stop all works and must attempt to identify what was on the site prior to disturbance.

Pacific Waterleaf [Photo by Ryan Durand]

Step 1: Preliminary Site Survey

Preliminary Site Surveys require a literature review and reconnaissance-level site survey to determine what species and EVRs are present or likely to be present on or near (i.e., within 100 m) the proposed development site. For a complete list of EVRs refer to Table 1 in Appendix 1 (MoE 2006).

- **Review existing inventory information** to determine if EVRs are known to occur on or near the proposed development site. For example:
  - Obtain a Wildlife Report prepared by the Fraser Valley Conservancy (http://www.fraservalleyconservancy.ca). This report draws upon a wide range of data sources, including data from the City of Abbotsford, Central Valley Naturalists, SAR Recovery Teams, Conservation Data Center, Wildlife Tree Stewardship, South Coast Conservation Program (SCCP) Atlas, etc. Please contact Lisa Fox at 604-850-7733 or lisa@fraservalleyconservancy.ca;
  - Search the BC Species and Ecosystems Explorer for the locations of species and ecosystems at risk on and near the development site;
  - See page 6 of this document and Appendix C of MoE's *Develop With Care* document (MoE 2006) for a list of other existing inventory and environmental mapping information sources.

Red-legged frog [Photo by Ryan Durand]

- **Conduct a site inspection** to determine species presence/absence and if smaller or less obvious EVRs, such as individual wildlife trees, dens, rock outcrops, etc are present.
  - See Appendix 1 for a list of some of the EVRs to search for on the development site. This checklist should be completed, signed by a qualified professional, and included in the final *Wildlife Assessment Report*.
- **Map EVRs on a site plan**

If there are no environmentally valuable resources…
If it can be shown that no EVRs exist or have existed on or within 100 m of the development site, a Detailed Site Inventory (i.e. Step 2) is not required. Please submit a brief report on the Preliminary Site Survey.

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If there are (or potentially could be) environmentally valuable resources present…
If EVRs are or may be present on or within 100 m of the proposed development site, there are two options:

1. **No impact:** a Detailed Site Inventory may not be required. The development is designed so that there are no impacts to the EVRs (i.e. EVRs are located within designated protected areas). A brief report should be produced describing the EVR(s) identified and how they will be protected.

2. **Possible impact:** more information needed—carry out a Detailed Site Inventory. The information collected during the Detailed Site Inventory will be useful for project planning/layout, and for identifying measures to reduce the environmental impacts of the proposed development.

Step 2: Detailed Site Inventory

A Detailed Site Inventory should be conducted if development is to proceed in ways that might impact the EVRs during construction or after occupation.

Vancouver Island Beggarticks [Photo by Chris Lee]

- **Determine the appropriate inventory methods to use** for conducting the detailed site assessment. The Resources Information Standards Committee (RISC) website provides information on inventory techniques. Multiple site visits during different seasons may be required in order to properly assess presence/absence of all of the species suspected of occurring on the site.
- **Identify all EVRs** on the site, describe their condition, and identify potential mitigation measures and restoration opportunities. Rare species and ecological communities should be identified by a QEP who has expertise in identifying such elements.
- **Map all EVRs** according to the standards established in *Standard for Terrestrial Ecosystem Mapping in British Columbia* (RIC 1998).
- **Identify potential development impacts, and avoidance or mitigation measures.** The report should identify potential development impacts and ways to avoid them. If impacts cannot be avoided, the report should include information on mitigation options. If conservation values are high on the proposed development site, and avoidance or mitigation measures are not likely to be effective (for example, if there will be adverse impacts to a species at risk), the QEP should recommend that development be re-designed or relocated off the site.
- **Identify restoration and enhancement opportunities.** The QEP's report should also identify restoration and enhancement opportunities on or near the development site.

Oregon Forestsnail [Photo by Ryan Durand]

Wildlife Assessment Report Requirements

Development Plan and Site Description:

- A description of the proposed project (if available);
- A map showing the regional setting of the development;
- A surveyed map demarcating the location of all the EVRs known to occur on or near (within 100m) the development site, overlaid on a current aerial photo base;

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- A site map indicating the layout of the project components and activities; and
- A site map indicating the topography of the site.

Existing Inventory Information:

- The Wildlife Report prepared by the Fraser Valley Conservancy;
- Results of any online searches, including the BC Species and Ecosystems Explorer, the Community Mapping Network, COSEWIC, etc.; and
- Any other information collected during the review of existing information.

Research Methods: research methods used must be based on recognized scientific standards and must be repeatable. Include descriptions of all methods used, including:

- Name/type of inventory method used;
- List of EVR(s) inventoried (please include a completed Table 1 from Appendix 1);
- Number of inventories per EVR;
- Timing and duration of inventories;
- Number of plots used;
- Inventory location (include general description and UTM coordinate);
- Where recognized standards were not followed (i.e. timing, intensity, etc) provide a justification for not requiring further inventory, or a recommendation for additional surveys;
- Confirmation that the locations of any species at risk were reported to the Conservation Data Center; and
- Names of all agencies and individuals contacted during the inventory.

Results:

- Describe all EVRs found/suspected of occurring on or near the development site;
- Provide any buffers recommended in BMPs, Recovery Plans, etc. For those EVRs without established buffers, provide recommendations;
- For species-at-risk known to occur in the area, an assessment of their likelihood of occurring on or adjacent to the development site;
- Summary tables of collected data;
- Map(s) showing the location and layout of all inventories conducted;
- Photos of the site and its important features; and,
- Completed electronic copies of the CDC's Species and Ecosystems At Risk Observation Forms (available here: http://www.env.gov.bc.ca/cdc/contribute.html).

Discussion:

- Provide a completed Detailed Assessment Checklist (MoE 2006), found in Appendix 2;
- Provide information on which alternative project designs/layouts were considered;
- Discuss the potential impacts to EVR(s) found on the site;
- Describe how to avoid and/or mitigate the impacts to the EVR(s);
- Describe how any unmitigatable impacts will be compensated;
- Assess how effective the mitigation and/or compensation strategies will be in maintaining the health, form and function of the EVRs;
- Recommend a monitoring plan for prevention, mitigation and compensation activities for the periods before construction, during construction and after construction, where appropriate. The monitoring program should provide measurable targets and what actions will be taken if targets are not met. The Managing Species-at-Risk in BC Guidance for Resource Professionals prepared by the College of Applied Biology of BC and Association of BC Forest Professionals (http://www.cab-bc.org/files/SAR%20Paper.pdf) provides guidance regarding monitoring plans. It states "[w]hen recommending a management strategy or land or resource use that could affect a portion of the range of a species at risk, the resource professional should also recommend an effective monitoring program to indicate whether the strategy is having

the anticipated effect. Adaptive management strategies may then be required to mitigate the impacts".

References:

- Provide references for all image sources, data sources, and supporting literature (including scholarly articles, BMPs, Recovery Plans, Inventory Methods, etc).

Signature and Seal:

- Provide signature and seal of the Qualified Environmental Professional(s) who conducted the inventory and prepared the report.

Monitoring Reports

Monitoring reports are required throughout the life of the project based on the monitoring plan recommended in the *Wildlife Assessment Report*. The independent environmental monitoring of works is undertaken to ensure that works are completed in compliance with the required standards, best practices, and conditions.

Downes Creek tributary
[Photo by Tanya Bettles]

Great Blue Heron
[Photo by Chris Lee]

Townsends Mole molehill
[Photo by Chris Lee]

Resources

- Develop With Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia (http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/develop_with_care_intro.html)
- BC Species and Ecosystems Explorer: conservation and ecological information (http://www.env.gov.bc.ca/atrisk/toolintro.html)
- RISC Standards: (http://www.ilmb.gov.bc.ca/risc/standards.htm)
- eFlora BC: An electronic atlas of the plants of BC: (http://www.geog.ubc.ca/biodiversity/eflora/)
- eFauna BC: An electronic atlas of the wildlife of BC (http://www.geog.ubc.ca/biodiversity/efauna/)
- Community Mapping Network BC: maps of sensitive habitats and species distribution (http://cmnbc.ca/)
- Identified Wildlife Management Strategy: species accounts (http://www.env.gov.bc.ca/wld/frpa/iwms/accounts.html)
- Provincial Recovery Strategies: (http://www.env.gov.bc.ca/wld/recoveryplans/rcvry1.htm)
- Federal Recovery Strategies: (http://www.sararegistry.gc.ca/sar/recovery/recovery_e.cfm)
- COSEWIC (http://www.cosewic.gc.ca/eng/sct5/index_e.cfm)
- South Coast Conservation Program (http://www.sccp.ca/)
- MOE Best Management Practices (http://www.env.gov.bc.ca/wld/BMP/bmpintro.html)

For more information

The staff in the *Community Sustainability and Planning Division* can help you comply with the Wildlife Assessment Report Guidelines. If you have any questions, please contact us at:

City of Abbotsford
Economic Development and Planning Services
Community and Sustainability Planning Division
32315 South Fraser Way
Abbotsford, BC V2T 1W7

Tel: 604-864-5510
Fax: 604-853-4981
www.abbotsford.ca

Or contact an Environmental Coordinator directly:

Rod Shead, Environmental Coordinator
rshead@abbotsford.ca
Tel: 604-851-4174

Tanya Bettles, Environmental Coordinator
tbettles@abbotsford.ca
Tel: 604-851-4186

Pauline Favero, Environmental Coordinator
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References

Ministry of Environment (MoE) *Develop With Care: Environmental Guidelines for Urban and Rural Land Development in BC*. March 2006.

Resources Inventory Committee (RIC) *Standard for Terrestrial Ecosystem Mapping in British Columbia*. May1998.

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Table 1. List of Environmentally Valuable Resources (copied directly from Ministry of Environment's *Develop With Care* document [MoE, 2006])

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	Unknown	Comments
Terrestrial ecosystems in relatively unmodified state: o older forests or mature forests o second growth forests o grasslands/shrub /herb communities o deciduous woodlands o coastal bluffs o sparsely vegetated (e.g., sand dunes) o islands				
Ecosystems at risk: o ecological communities on Conservation Data Centre Red or Blue Lists o sensitive ecosystems (ecosystem types identified by Sensitive Ecosystems Inventories) o areas identified as environmentally sensitive areas by local governments				
Aquatic or riparian ecosystems: o seasonal or permanent watercourses (streams, creeks, rivers, ditches) o seasonal or permanent wetlands, seepage areas, or vernal pools o lakes or ponds o riparian ecosystems beside these aquatic ecosystems and vegetated gullies				

Wildlife Assessment Report Guidelines
Appendix 1

Environmentally valuable resources on or near development site	Yes	No	Unknown	Comments
Species at risk and their habitats: o species at risk identified by COSEWIC o species on provincial red and blue lists o regionally significant species o habitats for any of these species				
Significant habitat features: o wildlife trees, snags, mature, large-limbed trees o rotten logs and other woody debris o caves o talus slopes o cliffs and rocky outcrops o seasonally flooded fields o hedges and shelterbelts o groundwater springs and seepages o old buildings				
Areas of significant wildlife use: o wildlife corridors o ungulate winter ranges; spring forage sites o den sites (badger, snake, etc) o raptor or heron nest sites				
Protected areas nearby				

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Detailed Assessment Checklist (copied directly from Ministry of Environment's *Develop With Care* document [MoE, 2006])

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 ☑

	Aquatic or riparian ecosystems		Species at risk and their habitats
	Significant habitat features		Ecosystems at risk
	Areas of significant use by wildlife		Terrestrial ecosystems in relatively unmodified states
	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. Are there adequate buffers between the proposed development and EVRs?

Yes ☐ *No* ☐ 9. Has connectivity been maintained between sensitive habitats within the plan area?

Yes ☐ *No* ☐ 10. Has connectivity been maintained between sensitive habitats in the development and the adjacent lands?

Yes ☐ *No* ☐ 11. Are the connectivity corridors of sufficient width and location to provide connectivity function for the species that may be impacted?

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Yes ☐ *No* ☐ 12. Have ecosystem fragmentation issues been addressed?

Yes ☐ *No* ☐ 13. Are measures in place to protect the viability of the EVRs during construction?

Yes ☐ *No* ☐ 14. Are measures in place to protect the viability of the EVRs following construction?

Yes ☐ *No* ☐ 15. Have approvals been obtained for:

a) Instream Works (Water Act Section 9)

b) Harmful alteration, disruption, or destruction of fish habitat (HADD)

Yes ☐ *No* ☐ 16. Are there provisions in place to ensure that protective measures and guidelines outlined at the planning and approval stages of the development will be followed throughout the development until occupancy? Provide details.

Yes ☐ *No* ☐ 17. Where impacts cannot be avoided has the appropriate mitigation/compensation been included within the plan area?

Yes ☐ *No* ☐ 18. Does the plan address species at risk recovery plans where these exist?

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