



ORDER – WILDLIFE HABITAT AREAS 2-517 to 2-525

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Regional Executive Director, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
 - i. the following area contains habitat that is necessary to meet the habitat requirements for Spotted Owl (*Strix occidentalis*); and
 - ii. the habitat requires special management that is not otherwise provided for under GAR or another enactment;orders that
 - a) the areas shown in the map set out in the attached Schedule A (2-517 to 2-525) and contained in the wildlife habitat areas (WHAs) spatial layer stored in the Geographic Warehouse
(WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY) are established as wildlife habitat areas for Spotted Owl (including Long Term Owl Habitat Area (LTOHA), and Managed Future Habitat Area (MFHA) boundaries, as defined in the Feature Notes). The centre point of the line on the attached Schedule A is what establishes the WHAs; and
 - b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the WHA spatial layer stored in the Geographic Warehouse
(WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY), the areas as detailed in the WHA spatial layer will take precedent.
2. The Regional Executive Director, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
 - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the habitat of Spotted Owl; and
 - ii. GAR or another enactment does not otherwise provide for that protection or conservation;orders that
 - a) the GWMs outlined in Schedule 1 are established for WHAs 2-517 to 2-525
3. Pursuant to section 7(2) of the *Forest Planning and Practices Regulation* a person required to prepare a forest stewardship plan is exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for Spotted Owl in the Sea to Sky District.

4. The GWMs outlined in Schedule 1 do not apply for the purposes of exploration, development and production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production by the *Mineral Tenure Act*, the *Coal Act*, or the *Geothermal Resources Act*.

Definitions:

Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* and the regulations made under it, unless context indicates otherwise.

drier ecosystems means the following biogeoclimatic subzones or variants: CWHds1, CWHms1, CWHms2, MHmm2, ESSFmw and IDFww.

large coarse woody debris (CWD) means fallen trees or logs (non self-supporting and a diameter at the small end >7.5cm) at an angle <45 degrees to the ground surface, stumps, or fallen large branches (>20cm in diameter).

large wildlife trees means wildlife trees, in wildlife tree classes 2 through 7-8, that are typically >75 cm dbh in wetter ecosystems; and wildlife trees, in wildlife tree classes 2 through 7-8, that are typically >50 cm dbh in drier ecosystems.

long-term owl habitat area (LTOHA) means the defined areas within a WHA that are to function as current or future Spotted Owl habitat.

managed future habitat area (MFHA) means the defined areas within a WHA that are primarily available for timber harvesting opportunities while retaining structural attributes to maintain options for all or portions of the MFHA to become future Spotted Owl habitat and, if necessary, LTOHA.

nest and critical roost site reserves means a forested and conserved area, normally 80 ha of Spotted Owl habitat, surrounding areas that are known by the Ministry of Environment (MoE) and Ministry of Forests, Lands and Natural Resource Operations (FLNR) and identified by the Director of Resource Management, South Coast Region to be used for nesting and roosting by Spotted Owls, or those areas identified by *Forest Act* agreement holders during the course of conducting timber harvesting and road construction.

net benefit to Spotted Owl habitat means a stand treatment that within 20 years will create or enhance Spotted Owl habitat conditions by improving quality of habitat or accelerating the development of spotted owl habitat attributes.

no net loss of Spotted Owl habitat means that any primary forest activity occurring within LTOHA that causes a temporary or permanent loss of Spotted Owl habitat or habitat attributes associated with Spotted Owl habitat, is mitigated to provide a net benefit to Spotted Owls and Spotted Owl habitat within 20 years.

Spotted Owl habitat is defined in Section 2 of the document *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.

total area under prescription (TAUP) means the treatment area, natural non-productive areas (e.g. rocky outcrops, slides, wetlands), wildlife tree retention areas, reserves, and road rights-of-way but excludes the road prism (top of cut bank to toe of fill slope) of existing permanent roads.

treatment area means the area where tree removal occurs including timber extraction corridors and landings, but excludes road rights-of-way, road prisms (top of cut bank to toe of fill slope), natural non-productive areas (e.g. rocky outcrops, slides, wetlands), wildlife tree retention areas and reserves.

uniform forest stands means a forest stand lacking structural diversity where trees are of a similar age and uniform size (height and diameter), with no apparent secondary tree canopy layers.

wetter ecosystems means the following biogeoclimatic subzones or variants: CWHdm, CWHvm1, CWHvm2 and MHmm1.

wildlife tree retention area (WTRA) means areas set aside from treatment that vary in size and distribution and are located to maximize protection of, and/or recruitment of, structural attributes associated with Spotted Owl habitat (e.g. wildlife trees, large trees, large CWD); and to provide for stand level biodiversity and habitat benefits for small mammals, including prey species for Spotted Owls.

Schedule 1 – General Wildlife Measures:

Access, timber harvesting and silviculture

- 1) Do not harvest timber or construct roads within WHA areas designated as long term owl habitat areas (LTOHA) or managed future habitat areas (MFHA) except as provided in GWM 2 through 6.
- 2) GWM 1 does not apply if:
 - a) timber harvesting within the WHAs is necessary to create guyline tiebacks for timber harvesting provided that trees that fall within the LTOHA portion of the WHA boundary are retained on site to function as coarse woody debris;
 - b) timber harvesting is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit; or
 - c) road maintenance, deactivation or brushing in the road rights-of-way is required.
- 3) GWM 1 does not apply where timber harvesting within LTOHA is designed to enhance or create Spotted Owl habitat if:

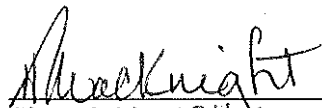
- a) timber harvesting results in a net benefit to Spotted Owl habitat;
 - b) timber harvesting occurs outside of nest and critical roost site reserves;
 - c) a minimum of 10% of the total area under prescription (TAUP) is retained as untreated wildlife tree retention areas (WTRA);
 - d) excluding the area retained in WTRAs as specified in GWM 3(c), no more than 40% of the stand basal area in the rest of the TAUP is harvested; and of the 40% stand basal area removed:
 - i. a minimum of 50% of the basal area is harvested as single stems or as small groups of trees that result in canopy gaps ≤ 50 square metres;
 - ii. no more than 25% of the basal area removed is from timber extraction corridors (e.g. linear features) and the maximum corridor width is 8 m; and
 - iii. no more than 25% of the basal area removed is from groups of trees that would result in canopy gaps between 51 and 300 square metres;
 - e) in drier ecosystems, a minimum average of 275 live trees/ha > 30 cm dbh are retained across the treatment area where tree retention density on each hectare of treatment area may vary between 240 to 310 live trees > 30 cm dbh;
 - f) in wetter ecosystems, a minimum average of 225 live trees/ha > 50 cm dbh are retained across the treatment area where tree retention density on each hectare of treatment area may vary between 200 to 250 live trees > 50 cm dbh;
 - g) an average density of 100 large-diameter live trees/ha are retained across the treatment area where large-diameter live tree retention densities per hectare may vary between 50 and 150 trees/ha as follows:
 - i. in non-uniform forest stands, retained large-diameter live trees are selected from the diameter classes representing the 150 largest diameter live trees/ha;
 - ii. in uniform forest stands, retained large-diameter live trees are selected from the dominant and co-dominant canopy layers; and
 - iii. at least 10 large wildlife trees/ha, if present, are retained among the 100 largest diameter live trees/ha; and
 - h) all pre-harvest coarse woody debris is retained.
- 4) GWM 1 does not apply to timber harvesting within WHA areas designated as MFHA if:
- a) timber harvesting occurs outside of nest and critical roost site reserves;
 - b) a minimum of 10% of the TAUP is retained as untreated WTRAs;
 - c) in drier ecosystems, a minimum average of 40 large-diameter live trees/ha are retained across the TAUP as follows:
 - i. in non-uniform forest stands, the retained large-diameter trees are selected from the diameter classes representing the 80 largest diameter live trees/ha;
 - ii. in uniform forest stands, the retained large-diameter trees are selected from the dominant and co-dominant canopy layers;

- iii. the number of trees retained per hectare may vary across the TAUP, however no point within the TAUP should be greater than 40 m from a retained tree;
 - iv. of the 40 large-diameter trees/ha, no more than 40% of those trees within the TAUP are retained within wildlife tree retention areas and other reserves; and
 - v. large-diameter trees are retained as single trees or groups of trees within the TAUP;
 - d) in wetter ecosystems, a minimum average of 15 large-diameter live trees/ha are retained across the TAUP as follows:
 - i. in non-uniform forest stands, the retained large-diameter trees are selected from the diameter classes representing the 30 largest diameter live trees/ha;
 - ii. in uniform forest stands, the retained large-diameter trees are selected from the dominant and co-dominant canopy layers;
 - iii. the number of trees retained per hectare may vary across the TAUP, however, no point within the TAUP should be greater than 40 m from a retained tree;
 - iv. of the 15 large-diameter trees/ha, no more than 40% of those trees within the TAUP are retained within WTRAs and other reserves; and
 - v. large-diameter trees are retained as single trees or groups of trees within the TAUP;
 - e) post-harvest large coarse woody debris is retained over the treatment area to result in:
 - i. representative species and sizes of the pre-harvest large coarse woody debris;
 - ii. a minimum average volume of 75 cubic metres/ha of large coarse woody debris; and
 - iii. where pre-harvest Western redcedar large coarse woody debris is present, a minimum average volume of 25 cubic metres/ha of Western redcedar large coarse woody debris if available, or all pre-harvest Western redcedar large coarse woody debris, if the pre-harvest amount available is <25 cubic metres/ha, towards the GWM 4 (e) ii requirement; and
 - f) early successional conifer species that are ecologically suitable for the site are planted with consideration for variable density planting.
- 5) GWM 1 does not apply to road construction within the WHA if:
- a) road construction activities occur outside of nest and critical roost site reserves;
 - b) there is no other practicable option for road construction in the LTOHA and the negative impacts of clearing road rights-of-way are offset so that there is no net loss to Spotted Owl habitat; and
 - c) road rights-of-way clearing widths within the LTOHA do not exceed the minimum clearing widths established under FPPR section 78.

- 6) GWM 1 does not apply to salvage in the MFHA if salvage activities:
- a) occur outside of nest and critical roost site reserves; and
 - b) follow the requirements in GWM 4(a) through (e).

Pesticides

- 7) Do not use pesticides in LTOHA, except for:
- a) the use of *Bacillus thuringiensis var kurstaki* for the control of western spruce budworm;
 - b) the use of beetle pheromones for the control of bark beetles; and
 - c) the application of herbicides for control of invasive plants or noxious weeds.



Signed this 28th day of February, 2013

Heather MacKnight, Regional Executive Director, South Coast Region
Ministry of Forests, Lands and Natural Resource Operations

Appendix 1:

The following information is provided by FLNR and MoE as background information and support to the order establishing Spotted Owl WHAs 2-517 to 2-525. This appendix is not part of the order.

1. These GWMs do not apply to persons that must comply with the *Workers Compensation Act* and the regulations made under that Act (e.g. OH&S Regulation Part 26). Where a GWM cannot be achieved due to a safety concern, a person should consider developing a rationale related to the safety issue. Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements. In situations where exercising the safety concern may be common and affect a substantial part of the cut-block (e.g. certain cable yarding situations, or meeting inter-tree spacing requirements in GWM 4 c(iii) and 4 d(iii)), it has the potential to significantly affect the over-riding objective of the Spotted Owl Management Plan, particularly maintaining structural attributes in the MFHA. In these cases, agreement holders should consider increasing retention in other portions of the cut-block or consider clustering of trees as a means of offsetting the lost retention from the safety affected area. This will help to ensure that the objective for MFHA in the Spotted Owl Management Plan is achieved at the broader scale.
2. **Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states
An order under any of sections 5 to 15 does not apply in respect of
 - (a) any of the following entered into before the order takes effect:
 - (i) a cutting permit;
 - (ii) a road permit;
 - (iii) a timber sale licence that does not provide for cutting permits;
 - (iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the *Forest Act*;
 - (v) subject to subsection (3), a minor tenure,
 - (b) a declared area,
 - (c) areas described in section 196 (1) of the Act, and
 - (d) areas referred to in section 110 of the *Forest Planning and Practices Regulation*.
3. *Forest Act* agreement holders should be familiar with the document *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009. This document was developed by the Best Management Practices Working Group and contains recommendations that are not directly reflected in this order, yet are still considered important for managing Spotted Owl habitat and should be considered by professionals when proposing activities in Spotted Owl WHAs. The document may be updated from time to time. Where a discrepancy exists between the BMPs and the GWMs, the latter takes precedence.

The document is available here:

<http://www.for.gov.bc.ca/ftp/DCK/external/!publish/SOMP/>

4. Authority to consider an exemption from these GWMs is provided in Section 92(1) of the *Forest Planning and Practices Regulation* and section 79(1) of the *Woodlot License Planning and Practices Regulation*. An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

An exemption application should be submitted to the Minister's delegate with a rationale describing the nature of the problem and options to integrate owl habitat conservation with proposed forest and/or range practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be handled within 14 calendar days of arrival at the FLNR Regional office.

Incomplete packages will be returned to the proponent for resubmission. A template for exemption requests is available at:

<http://www.env.gov.bc.ca/wld/frpa/index.html>

For GWM 1, exemptions would generally be considered when the proposed activities continue to meet the intent of the Spotted Owl Management Plan, as determined by the FLNR.

5. For the definition of large wildlife trees (as used in GWM 3(g)(iii)): see Figure 2 (classes 2 through 7-8) in *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.
6. For the LTOHA definition: The management goal is to achieve 100% Spotted Owl habitat conditions by conserving existing Spotted Owl habitats (e.g. old forests) and creating additional Spotted Owl habitats or enhancing habitat (e.g. in younger forests) to improve quality for foraging and/or nesting. Forestry activities within the LTOHA are only permitted with the purpose of enhancing and creating Spotted Owl habitat or protecting Spotted Owl habitat from catastrophic loss.
7. For the MFHA definition: The management goal is to allow for timber harvesting with the retention of structural attributes such as large diameter trees, snags, and large coarse woody debris to enable future recruitment as Spotted Owl habitat. The attributes retained are not normally present (in quality and quantity) in stands managed for timber on "normal" 60-100 year rotations. See also the section on MFHA in *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.

8. The intent of GWM 3(b), 4(a), 5(a) and 6(a) is that *Forest Act* agreement holders contact the FLNR or MoE for locations of known nest and critical roost site reserves prior to the commencement of activities. In some cases agreement holders may, during the course of conducting timber harvesting and road construction, identify a nest or critical roost site; and if this occurs they should provide that information to the Director of Resource Management, South Coast Region. It must be noted that since these sites represent a 'sensitive occurrence' (masked by the BC Conservation Data Centre (CDC)) they are protected from being distributed to the public. Proponents required to know of these locations may have to enter into a Confidentiality Agreement with MoE (and the BC CDC) before the location will be provided. There are times when the information will not be released because a planned activity will fall outside the critical nest or roost site, but this will be determined by the CDC upon reviewing the activity.
9. In GWM 3(g)(i) and (ii) and 4(c)(i) and (ii) and 4(d)(i) and (ii), retained trees should include any veteran trees present, and any trees exhibiting valuable habitat characteristics such as large, clustered or gnarled branches, or horizontal thickly moss-covered branches (e.g. wildlife trees from class 1). In uniform stands, preference should also be given to retain more windfirm species, such as Douglas-fir and Western redcedar, where options exist. When determining large tree retention in GWM 4(c) and 4(d), the intent is to refer to individual type stand tables (rather than block tables), which should provide a more accurate reflection of the stand conditions and are ecologically more defensible.
10. In GWM 3(e), 3(f), 4(c) and 4(d), tree retention in general should consider:
 - a) on dry sites, Douglas-fir trees are very windfirm;
 - b) on wet sites, Western redcedar trees are considered to be more windfirm than hemlock and balsam fir because of crown characteristics and rooting habits;
 - c) stem taper may be an important factor affecting susceptibility to stem breakage;
 - d) the height-to-diameter ratio of dominant trees in even-aged stands has been found to be a good indicator of risk of stem breakage;
 - e) crown class alone is not a reliable predictor of windthrow hazard. There is some evidence to suggest that dominant, codominant, and veteran trees are less susceptible to windthrow than the intermediate and suppressed crown classes if they have been exposed to wind for a long time;
 - f) more information is available in the Windthrow Handbook for BC Forests, available here: <http://www.for.gov.bc.ca/hfd/pubs/Docs/Wp/Wp01.htm>
 - g) that some post harvest stem breakage and windthrow is expected and acceptable since it will help create wildlife trees and coarse woody debris.
11. The intent of GWM 3 (h) is that pre-harvest coarse woody debris is retained on site as distributed across the treatment area; and it will not be assessed as waste as defined in the *Provincial Logging Residue and Waste Measurement Procedures Manual* (Waste Manual). Coarse woody debris piled at roadside or landings has limited ecological value. There is also an expectation that when harvest occurs to

create or enhance LTOHA that post-harvest large CWD will be recruited and distributed throughout the treatment area (e.g. particularly in stands with <75 m³/ha). It is important that the forest professional understands that retention of post-harvest large CWD in long-term spotted owl habitat will not form the grounds for classification as unavoidable waste as defined in the Waste Manual. All post-harvest large CWD will be subject to measurement and classification according to the methods outlined in the Waste Manual.

12. The intent of GWM 4 (e)(ii) and (iii) is to:

- a) improve the potential for restoring superior owl habitat through retention of large CWD that has a high component of fallen trees or logs >75cm in diameter and >5m in length in the wetter ecosystems; and a high component of fallen trees or logs >50cm in diameter and >5m in length in the drier ecosystems.
- b) distribute large CWD throughout the treatment area as single pieces and/or small piles, using a variety of large CWD materials (e.g. fallen trees, logs, and large branches rather than just large branches). Logs should be processed at the stump so that large CWD can be left throughout the stand to avoid concentrating CWD accumulations at landings and roadsides.
- c) not use fresh cut stumps to meet large CWD requirements where there are large fallen trees and other sources available. Fresh stumps should only be needed to meet the CWD requirements in second growth stands where alternate sources of large CWD are limited. Ideally, fresh stumps should only form a small portion of large CWD requirements.
- d) follow best management practices on page 18 section 4.3 of the Best Management Practices document.
- e) it should be understood that if large CWD is also comprised of merchantable timber (meaning logs, timber and woody material that meets the Coast Timber Merchantability Specifications) it may be subject to waste billing under the Waste Manual. It is important that the forest professional understands that retention of large CWD in managed future spotted owl habitat will not form the grounds for classification as unavoidable waste as defined in the Waste Manual. All large CWD will be subject to measurement and classification according to the methods outlined in the Waste Manual. The intent of the GWM is to leave existing CWD while adding to it with low grade and non-merchantable material (meaning logs, timber and woody material that does not meet the Coast Timber Merchantability Specifications) such that minimum average levels are achieved. As mentioned in Appendix clause 12 (a), large and long piece sizes should be considered. Where it is estimated that required levels of large CWD may not exist or pre-harvest merchantable timber must be retained (e.g. to meet the Cw requirement) it is incumbent on the forest professional to undertake surveys to establish the levels and to develop a plan for recruitment of large CWD that addresses the billable waste issues. This may include marking of large CWD pieces for retention.

13. The intent of GWM 5 (b) is that offsets to the negative impacts of clearing road rights-of-way must be acceptable to the Director of Resource Management, South Coast Region.
14. The intent of GWM 6 is to enable minor and major salvage in only the MFHA when it meets the conditions of this GWM. If a disturbance event (e.g. windthrow, fire, or forest health etc) occurs in treated MFHA which does not meet the conditions of this GWM, an exemption is required. Major salvage (operations that recover >100 cubic metres of forest products) within the LTOHA will only be considered on a site by site basis where damage within the LTOHA exceeds 30% of the stand volume; or where a natural disturbance caused by insects, disease, wildfire, windthrow or other catastrophic event results in degradation to the suitability of Spotted Owl habitat. Salvage proposals in the LTOHA will require an exemption. Proponents should not expect that all salvage applications in the LTOHA will be approved. It is not government's intention to accept repeated salvage requests over the same or similar area. Minor salvage (operations that recover <100 cubic metres of forest products) is not permitted in the LTOHA.
15. The 2012 Spotted Owl Management Plan acknowledges the need for adaptive management. It is expected that the Best Management Practices document will need to adapt as the practices are implemented and tested, and as new information becomes available. For more on adaptive management please refer to section 7 of *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009; and to the Forest Practices Branch website:
<http://www.for.gov.bc.ca/HFP/archives/amhome/AMDEFS.HTM>.

Where adaptive management is being considered for implementation at an operational scale, and differs from requirements in this order, the adaptive management proposal (that follows the 6 step process outlined in the above website) should be submitted as an exemption request. To acknowledge successful results from the adaptive management process, this order may be periodically updated.

16. Where an established WHA is subject to the operations of multiple *Forest Act* agreement holders, which may include areas under timber licence, woodlot licence, and First Nations woodlands licence, cooperation between licence holders should occur in order to ensure compliance with the GWMs established by this order.