



*PART OF THE*



# **FOREST STEWARDSHIP PLAN**

## **Supporting Information**

(This document does not form part of the Forest Stewardship Plan)

**Chilliwack Natural Resource District**  
**Fraser Timber Supply Area**

**Forest Licence: A19201**

**Timber Licence: T0822**

**October 22, 2021**

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# 1 Introduction

Forest Stewardship is the sustainable management of public forest land on behalf of the people of British Columbia. This requires balancing the many resources and values of the public forest including, but are not limited to; timber, water, wildlife, fisheries, recreation, botanical forest products, forage, cultural heritage and biodiversity. Forest companies like The Teal Jones Group work in co-operation with government agencies, First Nations, forest stakeholders and the public to ensure the provincial government's objectives for the management, protection and conservation of forest resources are met.

The *Forest and Range Practices Act* requires the holders of a major licence to prepare and obtain approval of a Forest Stewardship Plan for the areas where timber may be harvested and roads constructed.

The [Forest and Range Practices Act](#) (FRPA) and its regulations govern the activities of forest and range licensees in B.C. The statute sets the requirements for planning, road building, logging, reforestation, and grazing.

This Forest Stewardship Plan Supporting Document has been prepared as a companion to Teal Cedar Products Ltd.'s (Teal), a division of The Teal Jones Group, Forest Stewardship Plan submitted \_\_\_\_\_. Once approved, this Forest Stewardship Plan will replace the current Forest Stewardship Plan dated March 17, 2017 and its subsequent amendments.

The purpose of this Forest Stewardship Plan Supporting Document is to provide, in plain language, interpretative information to: First Nations participating in information sharing; general public in the review and comment period; and general rationales related to results and strategies, stocking standards and measures.

The Forest Stewardship Plan is an important Operational Plan as it outlines legal commitments that are subject to government inspection activities for compliance and enforcement.

It is also important to point out that Forest Stewardship Plans are only one aspect of forest management planning; Planning occurs at several levels including broad Strategic or Higher Level Landscape Plans that incorporate areas much larger than Teal's operating areas, to small site specific plans (e.g., Site Plans or Logging Plans) that contain detailed operational procedures.

Additionally, Teal voluntarily meets Canada's national standard for sustainable forest management; the [Canadian Standards Association Sustainable Forest Management Z809 Standard](#). This standard provides for independent third party verification that forestry organizations conduct forest planning and practices sustainably, assuring that the high threshold set by the standards have been met. Teal's wood products are certified under the [PEFC Chain of Custody System](#), providing assurance that international sustainability benchmarks are met through rigorous third-party assessment. PEFC sustainability benchmarks have been developed based on internationally recognized, ongoing and long term, intergovernmental processes and guidelines for the promotion of sustainable forest management to ensure compliance with globally agreed requirements.

## Public Review and Comment

Following the legislative requirements, the Forest Stewardship Plan will be available for public review and comment starting October 22, 2021, and lasting for a minimum 60-day period through to December 22, 2021.

### Review and Comment Options

- The Forest Stewardship Plan is available for viewing on The Teal Jones Group website at <https://tealjones.com/certifications/sustainable-forest-management-certificate/sustainable-forest-management-plan/>.
- The Forest Stewardship Plan document is available for public review and comment during normal business hours at the following office location. *Please phone (604)587-8700 in advance to arrange a viewing.*

**Teal Cedar Products Ltd.**

17897 Trigg Road  
Surrey, B.C.  
V4N 4M8

- Should you have comments resulting from your review, please submit them in writing to [forestry@tealjones.com](mailto:forestry@tealjones.com) or to the above address (c/o Forestry and Engineering).

In order to ensure your interests are fully considered, we recommend you follow these tips:

- identify interests, uses, and attributes in specified areas within the Forest Stewardship Plan that are important to you;
- identify your concerns about how forest development could affect your interests, uses, and attributes;
- provide any other information you feel Teal needs to be made aware of; and
- include your contact information.

All comments received through this process will be considered prior to submitting the final document to the Ministry of Forests, Lands and Natural Resource Operations.

## Indigenous Engagement

Teal's forestry activities take place within the traditional territories of a number of Indigenous Peoples. Ongoing engagement and information sharing is an important corner stone of Teal's commitment to identifying and respecting Indigenous rights. As part of the renewal process for the Forest Stewardship Plan, Teal provided information to those Indigenous communities with traditional territories that overlap the areas of the plan, along with an invitation to meet to discuss the plan.

Teal has a strong history of working cooperatively with Indigenous communities to protect identified values and provide forestry related opportunities. It is of the utmost importance to Teal to continue to grow relationships and foster the changes required to meet the *Declaration on the Rights of Indigenous Peoples Act*.

## Qualified Professionals

Qualified professionals perform many important roles throughout forestry. A professional designation or title is given when a candidate has met the criteria for registration with their respective association. Qualifications can include; specified post-secondary education, core competency requirements, professional development plans, articling period, ethics exam, professional reports, and professional practice exams.

The *Professional Governance Act* (PGA) grants professional associations the privilege of self-regulation and provides them with a framework for governance. These professional associations include forest professionals, engineers and geoscientists, agrologists, applied biologists, and applied science technologists and technicians. The Office of the Superintendent of Professional Governance (OSPG) oversees the operation of all self-regulated professions under the PGA. Professional associations develop standards that their members must uphold. Successful practice standards are proactive, clear, achievable, measurable, and enforceable. The associations are also responsible for regulating their members and have a process to determine conduct, implement remedies and impose penalties. Penalties can be imposed if the subject member has incompetently engaged in the professional practice; or contravened an Act. Penalties can include: suspension/removal of title, reprimands, conditions set on the member's registration, remedial programs, fines (e.g., up to \$10,000-ABCFP) and others.

The Association of British Columbia Forest Professionals (ABCFP) governs forest professionals. It is responsible for protecting the public interest in the practice of professional forestry by ensuring competence, independence, professional conduct and integrity of its members. The ABCFP holds each person engaging in professional forestry accountable. Other associations responsible for exercising the power and functions of its profession include: The College of Applied Biology (CAB), the Association of Professional Biologists (APB), the Association of Professional Engineers and Geoscientists of BC (APEGBC), and the British Columbia Association of Professional Archaeologists (BCAPA).

A Registered Professional Forester is able to engage in the full range of professional forestry; including tasks such as site plan documents, and forest stewardship plans. A Registered Forest Technologist is entitled to engaging in aspects of professional

forestry; they are able to work independently in forest measurements, silviculture, forest operations and forest protection. Other types of professionals that typically work within forestry include: Registered Professional Biologist (e.g., riparian, fisheries or wildlife habitat assessments); Professional Engineer (e.g., bridge design/planning); Professional Geoscientist (e.g., hydrological assessments or terrain hazard assessments), and Registered Professional Consulting Archaeologist (e.g., archeological assessments). Professionals may only work within their education, training, and experience areas.

## **Forest Stewardship Plan Introduction**

The information found in Forest Stewardship Plan Section 1- Introduction defines in technical and legal terms where and when the Forest Stewardship Plan is applicable. The following is a short summary of the purpose of each section:

### **Section 1.1 Definitions**

- Clarifies acronyms used throughout the document.
- Defines date when the Forest Stewardship Plan is active.

### **Section 1.2 Relevant Date for Legislation and Objective References**

- The Forest Stewardship Plan was written to be consistent with those legally established objectives, notices, area, designations, etc. as they were 4 months prior to the date of submission. Since legal objectives, notices, area, designations, etc. are continuously evolving, this allows the Teal some short-term planning certainty. When a new legal objective, notice, area, designation, etc. is established, Teal has a specified amount of time to amend the Forest Stewardship Plan to incorporate the new legal requirement.

### **Section 1.3 Definitions from Legislation**

- Reference to terms defined under legislation.

### **Section 1.4 Changes to Legislation**

- The Provincial Government Ministries sometimes change their names or the names of Acts, etc. within the lifetime of the Forest Stewardship Plan: therefore, Teal does not want to amend the Forest Stewardship Plan every time there is a name change. This statement ensures the commitment would remain despite name changes.

### **Section 1.5 Expressions Inclusive**

- Legal terminology to clarify content of Forest Stewardship Plan.

### **Section 1.6 Organization**

- Legal terminology to clarify content of Forest Stewardship Plan.

### **Section 1.7 Appendices Part of the FSP**

- Legal terminology to clarify content of Forest Stewardship Plan.

### **Section 1.8 Forest Investment Account**

- The purpose of this section is to confirm that the concept of *Forest Planning and Practices Regulation Section 2(1)(b)* applies to Forest Stewardship Plan obligations. This paragraph does not apply where the forest practice is funded under *Forest Planning and Practices Regulation Section 96*.

### **Section 1.9 Cancellation of Designation, Objective, Notice, Species or Order**

- This section applies where a government decision that has triggered a content requirement for a result or strategy in the Forest Stewardship Plan as a result of a designation, objective, notice, species or order is cancelled, thereby cancelling the requirement to write a result or strategy. The purpose of this section is to avoid formal amendments and to ensure that those results and strategies that are no longer in effect as a result of the cancellation take place immediately, rather than after the process of the formal amendment is complete (i.e., public review and comment, government review, etc.).

### **Section 1.10 Authority from Government**

- The purpose of this section is to clarify that the general language used in the results and strategies (i.e., the language implies that results or strategies will be met in all circumstances) does not constitute a waiver for circumstances or situations where exemptions from the Forest Stewardship Plan may be provided under *Forest and Range Practices Act* or *Forest Planning and Practices Regulation* (e.g., *Forest and Range Practices Act 25 or 26, Forest Planning And Practices Regulation 91(1)(a)*, etc.). This section only applies where the government expressly authorizes the activity.

### **Section 1.11 No Prohibition on Activities Otherwise Permitted or Required**

- The purpose of this section is to clarify that where the results or strategies currently specify that there will be no timber harvesting within a Forest Development Unit, subject to limit the protection and rights given to Teal by *Forest Planning and Practices Regulation Section 4(1.1)*.

## **2 Application of this FSP**

The information found in Forest Stewardship Plan Section 2 Application of this Forest Stewardship Plan (*Forest and Range Practices Act Section 3(4)*) further defines in legal terms where the Forest Stewardship Plan applies; who the Licensee is and which licenses apply.

### 3 FSP Maps

For the purposes of the *Forest Planning and Practices Regulation Section 14(2)*, the Forest Stewardship Plan map is required to illustrate the Forest Development Unit(s) (FDU) and designations and/or elements that have been established, for example:

- Ungulate Winter Range;
- Wildlife Habitat Area;
- Fisheries Sensitive Watershed;
- Lakeshore management zone;
- Scenic Areas;
- Lakes and associated designations;
- Community Watersheds;
- Old Growth Management Areas;
- Areas where commercial harvesting is prohibited by another enactment; and
- Cutting permit and road permit held by the agreement holder. A list of cutting permits is provided in tabular form in the FSP document, rather than displayed on the FSP maps.

**Forest Development Units (FDUs)** identify areas of potential forestry activities in the next 5 years. FDUs are general boundaries and do not reflect specific cutblock shapes or road locations. The area covered under Teal's Forest Stewardship Plan consists of 17 FDUs. The maps for these FDUs are located in Forest Stewardship Plan Appendix 1. Each map relates to a different FDU as listed in the following table:

FDU	Landscape Unit	Geographical Area
1	Pitt/Widgeon	Upper Pitt Lake & Widgeon
2	Hatzic	Hatzic Lake, Stave Lake, Norrish Creek & Lake Eroch
3	West Harrison/Chehalis	West Harrison Lake, Chehalis River & Chehalis Lake
4	Tretheway	Tretheway & Tipella
5	Coquihalla	Coquihalla, Sowaqua & Ladner
6	Anderson	Anderson & Uztlius
7A	Nahatlatch	Nahatlatch Lake/River, Kookipi Creek, Fraser Face & Scuzzy Creek
7B	Spuzzum	Spuzzum and Urquhart Creeks
8	Ainslie	Ainslie Creek & Mowhokam Creek
9	Silverhope	Jones Lake, Lorenzetta Creek, Hunter Creek & Silverhope Creek
10	East Harrison	East Harrison Lake, Cogburn Creek, Ruby Creek & Garnet Creek

FDU	Landscape Unit	Geographical Area
11	Big Silver	Upper East Harrison Lake & Big Silver Creek
12	Mehatl	Mehatl Creek and Nahatlatch River
13	Yale	Yale Creek, Fraser River & American Creek
14	Stave	Stave River & Winslow Creek
15	Fraser Valley South	South Face of Fraser River & Bridal Falls
16	Manning	Skagit River, Hope Princeton Highway

The following figure provides an overview of the Forest Stewardship Plan area showing the Forest Development Units.

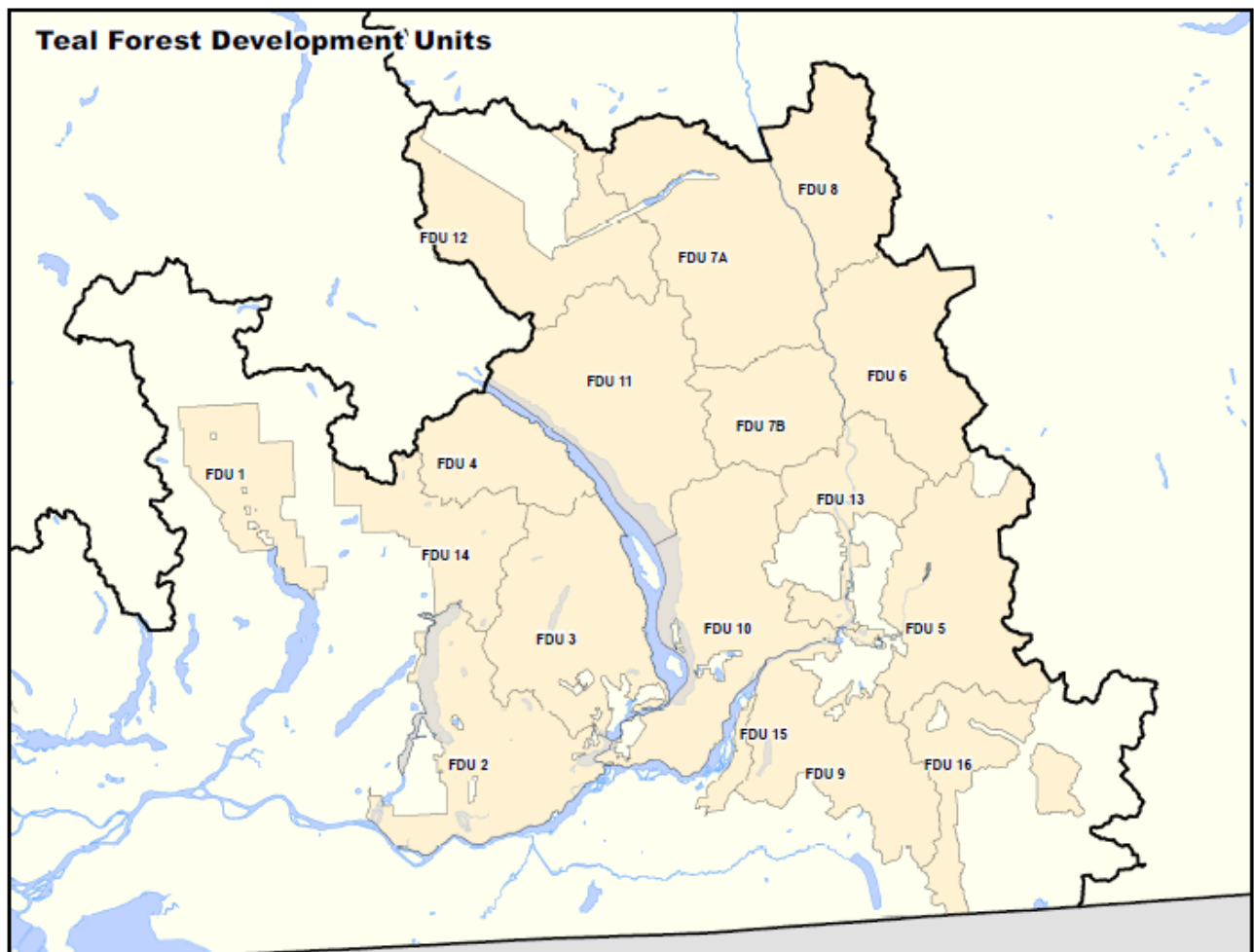


Figure 1: Overview Teal Forest Development Units

## 4 Term of this FSP

Teal is seeking a term of 5 years for this Forest Stewardship Plan commencing on the date of approval by the government.

## **5 Prohibition Timber Harvesting by Another Enactment**

The Spotted Owl Designated Area No. 1 was established on March 11, 2021 under Section 169 (Order of the Lieutenant Governor in Council) and Section 170(2) (Order of the Minister of Forests, Lands, Natural Resource Operations and Rural Development) of the Forest Act. The 2021 Spotted Owl Designated Area No. 1 Order remains in effect until and is rescinded on February 28, 2022. The Licensee will not make an application for a permit or license unless otherwise permitted as described in the Order for the areas and duration to which the Order applies.

## **6 Areas Subject to Cutting Permit or Road Permit**

*Forest Planning and Practices Regulation Section 14(3)(j)* requires a Forest Stewardship Plan to identify cutting permits and road permits currently held by the licensee. Currently held Cutting Permits are listed in Forest Stewardship Plan Appendix 2. Currently held Road Permits are shown in Forest Stewardship Plan Appendix 1 Forest Stewardship Plan Maps.

*Forest and Range Practices Act* and its regulations took effect on Jan. 31, 2004. Any activities already approved under the former legislative framework (e.g., *Forest Practices Code Act* and associated regulations) may continue and are governed by that legislation and its regulations.

For the purposes of the *Forest and Range Practices Act Section 197(7)*, all areas within Cutting Permits and Road Permits approved on or prior to the date of commencement of the original Forest Stewardship Plan, will continue to operate under the *Forest Practice Code Act* and associated regulations. All areas within Cutting Permits and Road Permits approved after the date of commencement of the original Forest Stewardship Plan will operate under the *Forest and Range Practices Act* and associated regulations.

## **7 Section 196(1) Cutblocks and Roads**

There are no Section 196(1) cutblocks or roads.

## 8 Results and Strategies

Under the *Forest and Range Practices Act Section 5(1)(b)*, the government establishes objectives for managing and protecting forest and range values. Government can set three types of objectives for managing and protecting forest and range values:

1. **Land Use Objectives** - Land Use Objectives are set by government for specific areas. Their intention is to enable existing and new objectives developed under regional and sub-regional planning process to be brought forward into *Forest and Range Practices Act*.

Information on Chilliwack Natural Resource Management District designations can be found at <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/south-coast-region-plans/chilliwack-lu>

2. **Objectives in Regulations** - Objectives may be set by Government under the *Forest and Range Practices Act Section 149* and apply province-wide. They are the most general type of objectives and may be prescribed by the Lieutenant Governor in Council in relation to one or more of the following subjects: (a) soils; (b) visual quality; (c) timber; (d) forage and associated plant communities; (e) water; (f) fish; (g) wildlife; (h) biodiversity; (i) recreation resources; (j) resource features; and (k) cultural heritage resources.

Objectives in regulations must be consistent with any land use objective, otherwise, to the extent of any conflict, the land use objective prevails.

Objectives in regulations are intended to provide goalposts for managing and protecting *Forest and Range Practices Act* values.

Results and strategies in operational plans must address and be consistent with these objectives. New or modified objectives in regulation are established through the legislative drafting and amendment processes. Objectives in regulations cannot be changed, or alternatives proposed, at a local level.

3. **Objectives Enabled by Regulations** - Objectives enabled by regulation are established by the appropriate Minister, or their delegate, for a specified area. These are the most specific of all objectives. Although they are not stated in the regulations, the legislation gives authority to the Ministers, or their delegate, to establish them for various types of areas. The objectives enabled in regulation come into effect through the *Government Action Regulation*.

Licensees are required to specify a Result or Strategy in the Forest Stewardship Plan for objectives set by government. Comments may also be included in the Forest Stewardship Plan for clarification.

A **Result** is defined as a “description of measurable or verifiable outcomes in respect of a particular established objective, and the situations or circumstances that determine where in a Forest Development Unit the steps or practices will be applied.”

A **Strategy** is defined as a “description of measurable or verifiable steps or practices that will be carried out in respect of a particular established objective, and the situations or circumstances that determine where in a Forest Development Unit the steps or practices will be applied.”

## 8.1 Land Use Objectives

### Established Landscape Units

#### Forest Stewardship Plan Section 8.1.1

In the Chilliwack Natural Resource District, the following Landscape Units have been established pursuant to *Forest Practice Code of BC Section 4*:

- Ainslie Landscape Unit (effective January 13, 2004)
- Anderson Landscape Unit (effective January 13, 2004)
- Big Silver Landscape Unit (effective June 24, 2005)
- Chehalis Landscape Unit (effective March 15, 2006)
- Coquihalla Landscape Unit (effective April 14, 2004)
- East Harrison Landscape Unit (effective June 24, 2005)
- Mehatl Landscape Unit (effective January 13, 2005)
- Nahatlatch Landscape Unit (effective January 13, 2004)
- Silverhope Landscape Unit (effective April 14, 2004)
- Spuzzum Landscape Unit (effective January 13, 2004)
- Tretheway Landscape Unit (effective June 24, 2005)
- West Harrison Landscape Unit (effective June 24, 2005)
- Yale Landscape Unit (effective April 14, 2004; variance February 3, 2005)
- Manning Landscape Unit (effective April 14, 2004)

#### **Old Growth Management**

**Areas (OGMA)** are areas that contain, or are managed to replace, specific structural old-growth attributes, and that are mapped out and treated as special management areas.

#### **A Wildlife Tree Patch (WTP)**

or **Wildlife Tree Retention Area (WTRA)** is a retention area managed at the stand level and is used to maintain structural diversity within managed stands by retaining wildlife trees adjacent to, or within, cutblocks.

The orders specify the objectives with respect to Old Growth Management Areas and Wildlife Tree Patches (WTP), also called Wildlife Tree Retention Areas (WTRA) in the Legal Objectives for each of the above listed Landscape Units (i.e., Objective 1 relates to Old Growth Management Areas and Objective 2 relates to Wildlife Tree Patches). These orders and legal objectives can be found in Forest Stewardship Plan Supporting Document Appendix 1.

Although these orders were established under older legislation framework, the Landscape Unit Objectives ultimately became objectives Under the *Forest and Range Practices Act*.

With respect to wildlife tree patch and wildlife tree retention area strategies under the Forest Stewardship Plan, Teal commits to meeting or exceeding the wildlife tree retention targets listed in Objective 2 Table A, for the applicable Landscape Unit. See Forest Stewardship Plan Section 8.2.6 for further detail on stand level biodiversity.

## Established Landscape Units – Lower Fraser Landscape Units

### Forest Stewardship Plan Section 8.1.2

In the Chilliwack Natural Resource District, the following Landscape Units have been established pursuant to the *Land Act Section 93.4*:

- Pitt Landscape Unit (effective February 4, 2013)
- Widgeon Landscape Unit (effective February 4, 2013)
- Hatzic Landscape Unit (effective February 4, 2013)
- Stave Landscape Unit (effective February 4, 2013)
- Fraser Valley South Landscape Unit (effective February 4, 2013)

The orders specify the objectives with respect to Old Growth Management Areas and can be found in Forest Stewardship Plan Supporting Document Appendix 1. This order does not specify objectives regarding the retention of Wildlife Tree Patches (also called Wildlife Tree Retention Areas), therefore for these Landscape Units, the amount of Wildlife Tree Retention Areas retained are determined consistent with Strategy 8.2.6.

## 8.2 Objectives Set by Government under Section 149 of the FRPA

Objectives Set by Government Under *Section 149* of the *Forest Range and Practices Act* are also called Objectives in Regulations.

### Soils

#### Forest Stewardship Plan Section 8.2.1

Under the *Forest Planning and Practices Regulation Section 5* the objective set by government for soils is, without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils.

Licencees are required to develop a result or strategy that meets this objective for the following practices:

- **Soil Disturbance Limits** i.e., soil disturbance within the Net Area to be Reforested is categorized as the area occupied by trails, compacted areas, areas of dispersed disturbance (ruts and gouges), and un-rehabilitated temporary access structures.

To meet this requirement, Teal commits to meeting the 'default' practice requirement found in *Forest Planning and Practices Regulation Section 36*, specifically a maximum of:

- 5% of the Net Area to be Reforested for sensitive soils
- 10% of the Net Area to be Reforested for non-sensitive soils
- 25% for roadside work areas (i.e., the area adjacent to a road where the following are carried out: decking, processing or loading timber; piling or disposing of logging debris)

These limits may be temporarily exceeded for the purposes of forest health (e.g., removing infected stumps, or windthrow salvage) or temporary access.

- **Permanent Access Structures** i.e., in-cutblock roads, landings, gravel pits, bridges, borrow pits, quarries and permanent logging trails that are reasonably required for timber harvesting and other forest management activities.

To meet this requirement, Teal commits to meeting the 'default' requirement found in *Forest Planning and Practices Regulation Section 35*, specifically: a maximum of 7% of the cutblock area will be classified as a Permanent Access Structure unless an acceptable rationale is provided. Examples of acceptable rationale include, but are not limited to: 1) there is no other practicable option on a cutblock, having regard to the size, topography and engineering constraints of the cutblock; 2) safety of road users; 3) they are required in selection harvesting systems for excavated or bladed trails or other logging trails; or 4) they are necessary to provide access beyond the cutblock). Where this limit is exceeded, rehabilitation may be required.

- Additionally, Licencees must meet **Practice Requirements regarding soil conservation** as outlined in *Forest Planning and Practices Regulation Sections 37 to 40*. These regulations specify that primary forestry activities must not cause landslides or gully processes and that natural surface drainage patterns are maintained and exposed soil is revegetated if there is potential for sedimentation or erosion.

Teal maintains many internal policies, procedures and planning requirements to meet these regulations, including but not limited to:

- Terrain Stability Assessments;
- Emergency Preparedness and Response Plan;
- Standard Operating Procedures; and
- Inspections and monitoring.

## Timber

Under the *Forest Planning and Practices Regulation Section 6* the objectives set by government for timber are to:

- (a) maintain or enhance an economically valuable supply of commercial timber from British Columbia's forests,
- (b) ensure that delivered wood costs, generally, after taking into account the effect on them of the relevant provisions of this regulation and of the Act, are competitive in relation to equivalent costs in relation to regulated primary forest activities in other jurisdictions, and
- (c) ensure that the provisions of this regulation and of the Act that pertain to primary forest activities do not unduly constrain the ability of a holder of an agreement under the *Forest Act* to exercise the holder's rights under the agreement.

At this time, Licencees are not required to develop a result or strategy that meets these objectives.

## Wildlife

### Forest Stewardship Plan Section 8.2.2

Under the *Forest Planning and Practices Regulation Section 7* the objectives set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for

- (a) the survival of species at risk,
- (b) the survival of regionally important wildlife, and
- (c) the winter survival of specified ungulate species.

Licencees are required to develop a result or strategy that meets this objective for identified species. A species is identified when the government provides a notice for that species that includes the amount, distribution and attributes of wildlife habitat required.

#### How Wildlife is Managed Under *Forest and Range Practices Act*

- Categories for Species at Risk
- Identified Wildlife Management Strategy
- Ungulate Winter Ranges
- Wildlife Habitat Areas
- Wildlife Habitat Features

The Licencee may be exempt from writing a result or strategy if the objective is met by the designation of wildlife habitat under a Wildlife Habitat Area, Ungulate Winter Range, General Wildlife Measure or Wildlife Habitat Feature.

## Ungulate Species

Government may specify which ungulate species require ungulate winter range for winter survival.

In December 2004, the Deputy Minister gave notice to provide indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of specified ungulate species in the Fraser Timber Supply Area. The specified ungulate species include:

- Mountain Goat;
- Black-tailed Deer; and
- Mule Deer.

The *Notice – Indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of specified ungulate species in the Fraser Timber Supply Area* can be found in Appendix 2.

## **Mountain Goat (*Oreamnos americanus*)**

### **Forest Stewardship Plan Section 8.2.2.1**

The Mountain Goat Winter Range polygons are shown on the Forest Stewardship Plan Appendix 1 maps (Forest Development Unit's 1, 2, 3, 4, 5, 7A, 7B, 9, 10, 11, 12, 13, 14 & 16). The *Order – Ungulate Winter Range U-2-001 Fraser TSA Mountain Goat (March 10, 2008)* can be found in Forest Stewardship Plan Supporting Information Appendix 2a and outlines the Schedule 1 – General Wildlife Measures that apply to the Mountain Goat Winter Range habitat.

## **Black-tailed and Mule Deer (*Odocoileus hemionus species*)**

### **Forest Stewardship Plan Section 8.2.2.2**

The Deer Winter Range polygons are shown on the Forest Stewardship Plan Appendix 1 maps (Forest Development Unit's 1, 2, 3, 4, 5, 6, 7A, 7B, 8, 9, 10, 11, 12, 13, 14 & 16). The *Order – Ungulate Winter Range U-2-006 (September 22, 2009)* can be found in Forest Stewardship Plan Supporting Information Appendix 2b and outlines the Schedule 1 – General Wildlife Measures that apply to the Deer Winter Range habitat.

## **Identified Species at Risk**

In December 2004, the Deputy Minister gave notice under *Forest Planning and Practices Regulation Section 7(2)* to provide indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the Chilliwack Natural Resource District. The species at risk include:

- Pacific (Coastal) Tailed Frog;
- Spotted Owl;
- Grizzly Bear;
- Pacific (Coastal) Giant Salamander;
- Pacific Water Shrew; and
- Tall Bugbane.

The *Notice – Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the Chilliwack Forest District (December 2004)* can be found in Appendix 2. This original Notice was subsequently updated and/or amended on the following dates: August 3, 2007, August 18, 2009 and October 4, 2010.

### **Pacific (Coastal) Tailed Frog (*Ascaphus truei*)**

#### Forest Stewardship Plan Section 8.2.2.3

Wildlife Habitat Areas that meet wildlife habitat requirements for Pacific (Coastal) Tailed Frog have been developed under the *Order Wildlife Habitat Areas 2-511 to 2-513 (April 1, 2014)*, this order includes General Wildlife Measures. Teal is therefore exempt from developing a result or strategy for Pacific (Coastal) Tailed Frog.

Government may establish General Wildlife Measures for specified areas and categories of species at risk, regionally important species and specified ungulate species. The General Wildlife Measures that apply to Teal's Forest Stewardship Plan area are found within Wildlife Habitat Area Orders and Ungulate Winter Range Orders.

The Order can be found in Forest Stewardship Plan Supporting Information Appendix 2c. The area covered by the Forest Stewardship Plan includes 1 Coastal Tail Frog Wildlife Habitat Areas as shown on the Forest Stewardship Plan Appendix 1 (Forest Development Unit 8 Ainslie) map.

### **Spotted Owl (*Strix occidentalis*)**

#### Forest Stewardship Plan Section 8.2.2.4

Wildlife Habitat Areas that meet wildlife habitat requirements for Spotted Owl have been developed under the *Order Wildlife Habitat Areas 2-494 to 2-510 (March 1, 2011)*, this order includes General Wildlife Measures. Teal is therefore exempt from developing a result or strategy for Spotted Owl.

The Orders can be found in Forest Stewardship Plan Supporting Information Appendix 2d. The area covered by the Forest Stewardship Plan includes 14 Spotted Owl Wildlife Habitat Areas as shown on the Forest Stewardship Plan Appendix 1 maps (see Forest Development Units 2, 3, 4, 5, 6, 7A, 7B, 8, 9, 10, 11, 12, 13, 15 & 16) maps.

### **Grizzly Bear (*Ursus arctos*)**

#### Forest Stewardship Plan Section 8.2.2.5

Wildlife Habitat Areas that meet wildlife habitat requirements for Grizzly Bear have been developed under the *Order Wildlife Habitat Areas 2-099, 2-100, 2-101, 2-102 & 2-194 (March 17, 2005)*, the *Order Wildlife Habitat Areas 2-109, 2-112, 2-114, 2-118, 2-119, 2-195, 2-196, 2-197, 2-198, 2-199, 2-201, 2-202 & 2-203 (March 17, 2005)*, the *Order Wildlife Habitat Areas 2-097, 2-098, 2-105 to 2-107, 2-111, 2-113, 2-116 and 2-372 to 2-380 Grizzly Bear -Chilliwack Forest District (September 16, 2010)* and the *Order Wildlife Habitat Areas 2-407 to 2-434 Grizzly Bear – Chilliwack Forest District (March 8, 2011)*, these orders include General Wildlife Measures. Teal is therefore exempt from developing a result or strategy for Grizzly Bear.

The orders can be found in Forest Stewardship Plan Supporting Information Appendix 2e. The area covered by the Forest Stewardship Plan includes several Grizzly Bear Wildlife Habitat Areas as shown on the Forest Stewardship Plan Appendix 1 Forest Development Plan (Forest Development Units 1, 5, 7A, 7B, 8, 9, 10, 11, 12 & 16) maps.

### **Pacific (Coastal) Giant Salamander (*Dicamptodon tenebrosus*)**

#### **Forest Stewardship Plan Section 8.2.2.6**

Wildlife Habitat Areas that meet wildlife habitat requirements for Pacific (Coastal) Giant Salamander have been developed under the *Order Wildlife Habitat Areas 2-120 to 2-128, 2-148 and 2-149 Pacific Giant Salamander – Chilliwack Forest District (August 24, 2007)* and the *Order Wildlife Habitat Areas 2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595, 2-656 to 2-661 and 2-663 to 2-666 Pacific Giant Salamander – Chilliwack Forest District (August 21, 2017)*, these orders include General Wildlife Measures. Teal is therefore exempt from developing a result or strategy for Pacific (Coastal) Giant Salamander.

The Orders can be found in Forest Stewardship Plan Supporting Information Appendix 2f. The area covered by the Forest Stewardship Plan includes several Pacific (Coastal) Giant Salamander Wildlife Habitat Areas as shown on the Forest Stewardship Plan Appendix 1 (Forest Development Unit 15) map.

### **Pacific Water Shrew (*Sorex bendirii*)**

#### **Forest Stewardship Plan Section 8.2.2.7**

Wildlife Habitat Areas that meet wildlife habitat requirements for Pacific Water Shrew have been developed under the *Order Wildlife Habitat Areas 2-514, 2-515 and 2-667 to 2-669 Pacific Water Shrew – Chilliwack Forest District (August 21, 2017)*, this order includes General Wildlife Measures. Teal is therefore exempt from developing a result or strategy for Pacific Water Shrew.

The Order can be found in Forest Stewardship Plan Supporting Information Appendix 2g. The area covered by the Forest Stewardship Plan includes two Pacific Water Shrew Wildlife Habitat Areas as shown on the Forest Stewardship Plan Appendix 1 (Forest Development Unit 2 & 3) maps.

### **Tall Bugbane (*Actaea elata*)**

#### **Forest Stewardship Plan Section 8.2.2.8**

Results or strategies are not specified in the Forest Stewardship Plan for Tall Bugbane as the known distribution of Tall Bugbane is outside the area covered by this Forest Stewardship Plan. The Accounts and Measures for Managing Identified Wildlife – Accounts V. 2004 indicates that Tall Bugbane is “only known from 10 sites near Chilliwack, British Columbia.” There is no specific information indicating distribution of Tall Bugbane within the area covered by this Forest Stewardship Plan. The applicable government ministry has developed Wildlife Habitat Areas to address the habitat requirements of the Tall Bugbane; these approved Wildlife Habitat Areas are located outside of the area covered by this Forest Stewardship Plan. See *Order – Wildlife Habitat Areas 2-129, 2-139, 2-141 to 2-143, 2-145 and 2-146 Tall Bugbane – Chilliwack Forest District (August 24, 2007)* and the *Order – Wildlife Habitat Areas 2-567 to 2-579 and 2-670 Tall Bugbane – Chilliwack Forest District (August 21, 2017)*. The Orders can be found in Forest Stewardship Plan Supporting Information Appendix 2h.

### **Northern Goshawk (*Accipiter gentilis laingi*)**

#### Forest Stewardship Plan Section 8.2.2.9

At the writing of this FSP, two new Wildlife Habitat Areas have been proposed in the Chilliwack Forest District (WHAs 2-696 to 2-697). The formal review and comment period commenced on July 14, 2021. In respect of these proposals and in anticipation of a new Order for Northern Goshawk, the Licensee will, for FDU's 6 and 16 under this FSP, manage the proposed Northern Goshawk WHA's, as spatially identified in the formal review and comment package and the FSP Map(s), in accordance with the proposed General Wildlife Measures. Once the Order is approved, the Licensee will manage WHAs 2-696 and 2-697 according to the General Wildlife Measures described in that Order. The proposed WHAs can be found in Forest Stewardship Plan Supporting Information Appendix 2i.

### **Mountain Beaver (*Aplodontia rufa*)**

Results or strategies are not specified in the Forest Stewardship Plan for Mountain Beaver, as it has not been identified by government. The known distribution of Mountain Beaver is the southern portion of the Chilliwack Natural Resource District. The applicable government ministry has developed a Wildlife Habitat Area to assist in addressing the habitat requirements of the Mountain Beaver *Order – Wildlife Habitat Area 2-012 (September 13, 2001)*. The Order can be found in Forest Stewardship Plan Supporting Information Appendix 2j. The Mountain Beaver Wildlife Habitat Area is shown on the Forest Stewardship Plan Appendix 1 (Forest Development Unit 9) map.

### **Marbled Murrelet (*Brachyramphus marmoratus*)**

The MFLNRORD is proposing to establish:

1. the MAMU Order, which will protect an additional 60,274 ha of Marbled Murrelet nesting habitat on provincial Crown land on Vancouver Island and the South Coast; and
2. the MAMU Notice, which will guide the establishment of Wildlife Habitat Areas under *FRPA* and Old-Growth Management Areas under the *Land Act*.

The public review and comment period began on September 18, 2020 and ended February 12, 2021. At the time of the writing of this FSP, the MAMU Order had not yet taken effect. The FSP will be amended when the MAMU Order does come into effect. The Draft MAMU Order and Draft MAMU Notice can be found in Forest Stewardship Plan Supporting Information Appendix 2k.

## Other Species at Risk and Managed Species

Additionally, other Species at Risk or managed species may occur within Teal's operating areas. The first steps planners take are to understand the biology and unique ecological characteristics of any species at risk or managed species in the area, and any legislative direction applicable to those species.

For example, checking the Species at Risk Public Registry, the Committee on the Status of Endangered Wildlife in Canada and the B.C. Conservation Data Center element occurrence records, and any relevant recovery strategies/action plans, higher level plans or policy directions. If a Species at Risk is an Identified Wildlife Management Species and an 'Account and Measures' document is available, Teal will reference that document in assisting to develop an appropriate management prescription in conjunction with a Qualified Professional.

Some wildlife habitat features have legal protection, including but not limited to:

- Beaver house, den and dam
- Muskrat house or den, except on diked land
- Raptor nests (eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl); and
- A bird or its egg, or the nest of a bird when the nest is occupied by a bird or its egg

*Wildlife Act*

Where species or potential habitat are identified, Teal confirms habitat conservation requirements in cooperation government and Qualified Professionals.

## Designated Regionally Important Species

The government may designate one or more categories of wildlife as regionally important wildlife where the species are important to a region of BC and may be adversely impacted by forest and range practices.

As of the date this Forest Stewardship Plan was submitted for approval, there were no designated regionally important species in the area covered by the plan.

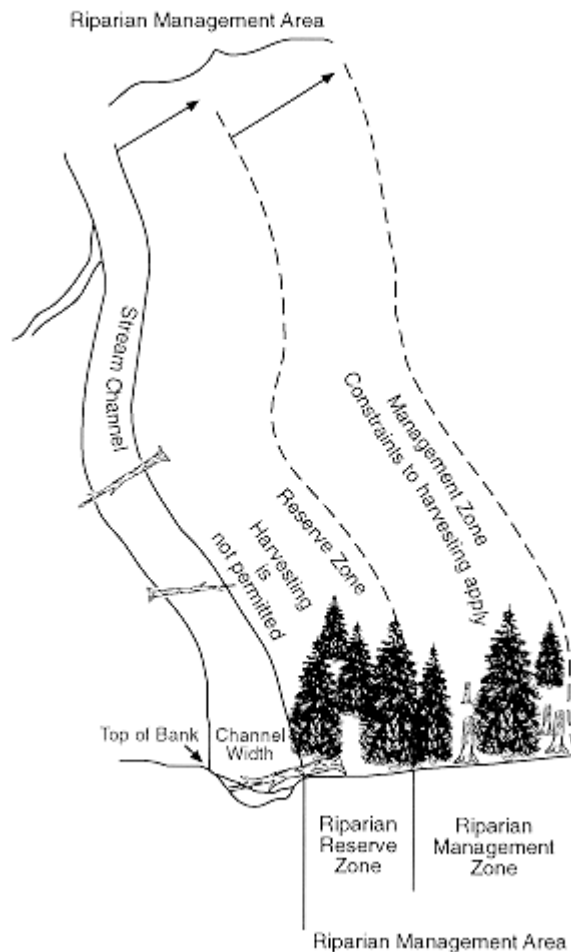
## Wildlife Habitat Features

The Government may identify categories of wildlife habitat features to protect certain bird nests, significant mineral licks and other localized habitat features. Currently, there are no designated habitat features in the area covered by the Forest Stewardship Plan.

Teal has a number of internal procedures to protect specific wildlife features. For example, where operationally feasible, bear dens are incorporated into Wildlife Tree Patches, reserve areas or excluded from the cutblock. In addition to the protection of features, other management strategies may be employed such as relevant timing windows around breeding season.

## Water, Fish, Wildlife and Biodiversity within Riparian Areas

Riparian habitat occurs next to the banks of streams, lakes, and wetlands; it includes both the area dominated by continuous high moisture content and the adjacent upland vegetation that exerts an influence on it.



**Figure 2 Riparian Management Area showing the application of a management zone and reserve zone along the stream channel (Forest Practices Code Riparian Management Area Guidebook, December 1995)**

### Forest Stewardship Plan Section 8.2.3

Under the *Forest Planning and Practices Regulation Section 8* the objectives set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

To meet this objective, Teal commits to the practice requirements which define the width of the riparian management area, riparian reserve zone and riparian management zone (*Forest Planning and Practices Regulation* for streams (*Section 47(4) to (6)*), wetlands (*Section 48(3) to (5)*), and lakes (*49(2) and (3)*) as follows:

Type	Riparian Class	Riparian Management Area (metres)	Riparian Reserve Zone (metres)	Riparian Management Zone (metres)
Streams	S1-A	100	0	100
	S1-B	70	50	20
	S2	50	30	20
	S3	40	20	20
	S4	30	0	30
	S5	30	0	30
	S6	20	0	20
Wetlands	W1	50	10	40
	W2	30	10	20
	W3	30	0	30
	W4	30	0	30
	W5	50	10	40
Lakes	L1-A	0	0	0
	L1-B	10	10	0
	L2	30	10	20
	L3	30	0	30
	L4	30	0	30

Teal also commits to the practice requirements of the *Forest Planning and Practices Regulation Section 50(1)* restricting road construction in riparian management areas.

Teal has sought a *Forest Planning and Practices Regulation Section 12.3(5)* conditional exemption from *Forest Planning and Practices Regulation Section 51(1) and (3)*. These regulations permit specific forest practices within riparian reserve zones. Teal has provided an “intended” result in the Forest Stewardship Plan. This result essentially mirrors the current Forest Planning and Practices Regulation requirements but has one additional clause; that being Teal could cut, modify or remove trees in a Riparian Reserve Zone if a Qualified Professional has prescribed a treatment that will improve the attributes of one or more of the following riparian values:

- Water quality
- Fish habitat
- Wildlife habitat
- Biodiversity

The purpose of this result is to not only recognize the strict protection measures afforded by the *Forest Planning and Practices Regulation* but to provide opportunities for Qualified Professionals to improve non- timber riparian values through the implementation of science- based treatment prescriptions. These standards will provide Qualified Professionals, such as biologists and hydrologists, a means to improve, by repairing or enhancing, riparian stand attributes such as species composition, stand density and stand structure.

Teal recognizes that the riparian values; water quality, fish habitat, wildlife habitat and biodiversity are interconnected and are best managed at a landscape level. That is, works conducted under this result, while possibly implemented at a cutblock level, would be guided by a detailed landscape level riparian restoration plan. A plan based on the guidance and recommendations of a diverse team of Qualified Professionals. Teal's Sustainable Forest Management certification requires internal controls and direction to ensure any new procedures, such as riparian reserve zone harvesting, will be diligently planned, implemented, monitored and reviewed.

For example, Qualified Professionals have identified deficiencies or inefficiencies in the function of some riparian reserve zones. In many coastal valleys, historical logging patterns have resulted in the development of dense second growth stands along the valley bottoms. Prior to the initial logging, these riparian areas contained a diversity of timber species and forest structures which allowed them to provide optimal wildlife habitat, fish habitat and hydrological stability. Today, these second growth stands are many years away from maximizing their peak biological and hydrological potential.

Forest hydrologists have identified that main valley streams often lack the large coniferous woody debris input needed to provide for long term hydrological control of streamflow. This deficiency can lead to increased erosion in the upper and middle stream reaches and increased sedimentation downstream. Moreover, resident fish are challenged for habitat as these reaches may lack the protection, spawning and rearing habitat that large woody debris input provides.

The partial harvest (and reforestation) of a riparian reserve zone may accelerate the development of preferential tree species or tree and stand attributes (e.g. large stems and branches). Harvest species selection might mean the retention of important species like Douglas- fir, spruce and cedar and the cutting of less desirable alder, balsam and hemlock species. In addition, many of these lower slopes have regenerated with pure stands of alder or deciduous species. Deciduous species, when acting as large woody debris, may not provide the wood quality (i.e. durability) or size required to effectively control stream function over the long term. The conversion of the deciduous stands to conifer- leading stands, may seem like a dramatic process, however in the longterm managing for the accelerated replacement of deciduous riparian stands with coniferous stands could lead to benefits for fish, water quality and biodiversity.

Adaptive management is a core foundation of results-based forestry. Results such as this allow Teal and its Qualified Professionals to improve management on a landscape level and provides opportunities for Teal to practice forest stewardship in a way that benefits both timber and non-timber resources. For example, the ability to restore proper riparian area function may allow more effective locations of Old Growth Management Areas, Wildlife Tree Retention Areas, Ungulate Winter Range, Wildlife Habitat Areas and Species at Risk. This management approach is consistent with the Chief Forester's Guidelines for Stewardship/ Timber Harvesting Landbase Stabilization Projects (June 2015) "improve stewardship and economic activity while optimizing constraint objectives on the timber harvesting land base".

*Forest Planning and Practices Regulation Section 12(3)* states a person who prepares a forest stewardship plan must specify in it a result or strategy that addresses retention of trees in a riparian management zone, for the objective set out for water, fish, wildlife and biodiversity in *Forest Planning and Practices Regulation Section 8*. To meet this requirement, the minimum basal area to be retained in the Riparian Management Zone will be as follows:

Riparian Class	<b>Basal Area to be Retained in the Riparian Management Zone</b> (% of the total pre-harvest basal area to be retained within Total Area Under Prescription by Riparian Class)
S1-A, S1-B, S2, S3	≥ 20
S4	≥ 10
S5 (valley bottom)	≥ 10
S5 (non-valley bottom)*	≥ 0
S6	≥ 0
W1, W2, W3, W4, W5	≥ 10
L2, L3, L4	≥ 10

\* In the Riparian Management Plan Guidebook – December 1995 (Table 9), S5 non-valley bottom streams have been defined as “larger non-fish streams forming either the main valley stream or major tributaries to a valley. This does not include steep hillside tributaries.” This definition will be used for the Forest Stewardship Plan.

Basal area retention levels within Riparian Management Zones will be specified within the Site Plan (and other operational plans as required) prior to harvesting. The level of basal area retention within Riparian Management Zones throughout the total area under prescription (TAUP) will be determined by a Qualified Professional based on those factors in *Forest Planning and Practices Regulation Schedule 1, Section 2* and an assessment of the windthrow risk to ensure the identified basal area retention will have an acceptable exposure to damaging wind events.

The Factors outlined in *Forest Planning and Practices Regulation Schedule 1, Section 2* are as follows:

- (a) the type of management regime that is required for a riparian area, having regard to
  - (i) the need to buffer the aquatic ecosystem of a stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat,
  - (ii) the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity,

- (iii) the need to maintain stream bank and stream channel integrity, and
- (iv) the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes in conserving water quality, fish habitat, wildlife habitat and biodiversity;
- (b) the type, timing or intensity of forest practices that can be carried out within the context of a management regime referred to in paragraph (a);
- (c) the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat.

The amount of basal area to be retained within the Riparian Management Zones throughout the total area under prescription for streams with a similar riparian class will be averaged for each cutblock. For example, if the total area under prescription for a cutblock contains two S4 streams, then a minimum of 10% of the pre-harvest basal area is to be retained within the Riparian Management Zone of one, or both, (in any combination of allocation) of these streams within the cutblock total area under prescription.

Retained trees will consist of merchantable and non-merchantable coniferous and deciduous trees and will be reasonably representative of the physical structure of the riparian management zone, as it was before harvesting.

In addition, Teal has committed to *Forest Planning and Practices Regulation Section 52(2)* which is a practice requirement to “retain enough trees adjacent to the stream to maintain the stream bank or channel stability” for all S4, S5, and S6 streams which

- (a) are direct tributary to fish bearing S1, S2, and S3 streams,
- (b) flows directly into the ocean near to a herring spawning area, a shellfish bed, a saltwater marsh area, an aquaculture site, or a juvenile salmonid rearing area or an adult salmon holding area, or
- (c) flows into an area described in (b) above and channel instability would affect these resources.

Under *Forest Planning and Practices Regulation Section 53* Teal has also committed to the practice requirement for temperature sensitive streams. For temperature sensitive streams, or streams which are direct tributaries to temperature sensitive streams, sufficient trees must be retained in the riparian management area “to prevent the temperature of the temperature sensitive stream from increasing to an extent that would have a material adverse impact on fish”, including trees whose crowns will shade the stream, or understory vegetation that shades the stream.

Teal further protects riparian resources with Standard Operating Procedures and site-specific instructions implemented at the operational level. For example, some commonly used practices include but are not limited to:

- 5m Machine Free Zones on all streams with the exception of designated crossings;
- designated stream crossings marked on operational maps and in the field;
- Fall away and yard away from all streams whenever possible;
- No limbing in riparian areas;
- No bucking or salvage of large, stable woody debris in streams or stream banks;
- Introduced coarse woody debris is cleaned from waterbodies and gullies as prescribed in operational plans;
- Maintain understory vegetation and non-merchantable trees within the Riparian Management Zone;
- Avoid parking and no servicing vehicles and equipment in Riparian Management Areas; and
- No refueling in Riparian Management Areas.

## **Water in Community Watersheds**

Forest Stewardship Plan Section 8.2.4

Under the *Forest Planning and Practices Regulation Section 8.2* the objectives set by government for water are as follows:

- (1) In this section “community watershed” means a community watershed
  - (a) that is continued under Section 180 (e) of the Act, and
  - (b) for which a water quality objective has not been
    - (i) continued under Section 181 of the Act, or
    - (ii) established under the Government Actions Regulation.
- (2) The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent, to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in
  - (a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or
  - (b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under
    - (i) an enactment, or
    - (ii) the licence pertaining to the waterworks.

- (3) The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.
- (4) If satisfied that the objective set out in subsection (2) is not required to provide special management, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.
- (5) If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

Existing community watersheds and objectives established under the *Forest Practices Code Section 41 (8) and 41(10)* are grandparented to the *Forest and Range Practices Act*. Within the area covered by this Forest Stewardship Plan, the following community watersheds, were established or continued under the *Forest Practice Code*. These watersheds are listed in Appendix 3 and include the watershed area and designation date.

1. Gurney Community Watershed
2. Deroche Community Watershed
3. Norrish Community Watershed
4. Elbow Community Watershed
5. Cohen Community Watershed
6. Domitian Creek Community Watershed
7. Ichilaka Community Watershed
8. Kopp Community Watershed
9. Centre Community Watershed
10. Drachmann Community Watershed
11. Hallisey Community Watershed
12. Choate Community Watershed
13. Inkawthia Community Watershed
14. Skeemis Community Watershed
15. Coutlie Community Watershed
16. One & One Quarter Community Watershed
17. Jamieson Community Watershed
18. Stoyoma Community Watershed
19. Two Mile Community Watershed
20. Stormy Community Watershed
21. Edna Community Watershed
22. Sasquatch Community Watershed
23. Thunderbird Community Watershed
24. Pickney Community Watershed
25. Schkam Lake Community Watershed
26. Yale Community Watershed
27. Dunville Community Watershed
28. Elk Community Watershed
29. Nevin Community Watershed

Water quality objectives for the above listed Community Watersheds were not established under their original designation in the *Forest Practices Code*, nor have objectives been continued under *Forest Planning and Practices Act Section 181*, and have not been established under *Section 8(2) of the Government Action Regulation*. Teal therefore is required to specify a result or strategy in the Forest Stewardship Plan.

Teal's strategy is to communicate and cooperate with other forest agreement holders to ensure that an up-to-date Watershed Assessment has been completed every 6 years, by a Qualified Professional, unless no primary forest activities are scheduled to occur. The Watershed Assessment will reflect the current and proposed future conditions of the watershed and addresses the key elements of the hydrologic and geomorphic processes in the watershed. The Watershed Assessments will include recommendations or establish thresholds for forest management to minimize likelihood of impacts to elements. Forestry activities will be consistent with the recommendations.

## **Wildlife and Biodiversity – Landscape Level**

### **Forest Stewardship Plan Section 8.2.5**

Under the *Forest Planning and Practices Regulation Section 9*, the objectives set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

Licencees are required to develop a result or strategy that meets this objective, with respect to:

- **Maximum Cutblock Size** (i.e., the size of the net area to be reforested for the cutblock)

To meet this objective, Teal commits to meeting the 'default' practice requirement found in *Forest Planning and Practices Regulation Section 64*, specifically:

- Maximum cutblock size is 40 hectares
- Cutblocks may be larger than 40 hectares if one of the following conditions is met: 1) timber harvesting is being carried out on the cutblock to recover timber damaged by fire, insect infestation, wind or other similar events, or for sanitation treatments or 2) the cutblock is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance.
- Cutblocks may be larger than 40 hectares if timber harvesting retains 40% or more of the basal area of the stand
- Cutblocks may be larger than 40 hectares if no point within the net area to be reforest is more than two tree lengths from either the boundary or a group of trees reserved from harvesting that is greater than or equal to 0.25ha in size, or more than one tree length from a group of trees reserved from timber harvesting that is less than 0.25ha in size.

- **Harvesting Adjacent to Another Cutblock**

"adjacent" means an area that is sufficiently close to a cutblock that, due to its location, could directly impact on, or be impacted by, a forest practice carried out within the cutblock;

"existing cutblock" means a cutblock that was previously harvested under an agreement other than a minor tenure;

"new cutblock" means a cutblock on which harvesting has not yet started and that is adjacent to an existing cutblock;

"non-conforming portion" means an area within an existing cutblock on which the stocking and height requirements of subsection (3) have not been met.

To meet this objective, Teal commits to meeting the 'default' practice requirement found in *Forest Planning and Practices Regulation Section 65*, specifically:

- A new cutblock will not be harvested unless all existing cutblocks that are adjacent to the new cutblock meet 'green up' requirements as defined below; or
- The combined area of the new cutblock and any non-conforming portions of existing cutblocks that are immediately adjacent to the new cutblock do not exceed the maximum cutblock size (40 hectares).

The following criteria define 'green up' requirements:

- (a) at least 75% of the net area to be reforested of the existing cutblock is stocked such that the average height of the tallest 10% of the trees on the area is a minimum of 3m and
  - (i) is stocked in accordance with the applicable stocking standards, or
  - (ii) stocked with at least 500 trees/ha of a commercially valuable species that are at least 1.3 m in height
- (b) the part of the net area to be reforested of the existing cutblock that is closest to the new cutblock
  - (i) must be at least half of the net area to be reforested,
  - (ii) is stocked such that the average height of the tallest 10% of the trees on the area is a minimum of 3 m, and
  - (iii) is stocked
    - (A) in accordance with the applicable stocking standards, or
    - (B) with at least 500 trees/ha of a commercially valuable species that are at least 1.3 m in height

## Wildlife and Biodiversity – Stand Level

### Forest Stewardship Plan Section 8.2.6

Under the *Forest Planning and Practices Regulation Section 9.1* the objectives set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.

Tree retention (Wildlife Tree Patches or Wildlife Tree Retention Areas) requirements are specified by either the Landscape Unit Objective or *Forest Planning and Practices Regulation Section 66*, depending on the location. The size of the Wildlife Tree Patches or Wildlife Tree Retention Areas are based on a percentage of the area harvested and the ecosystem classification of the site, for example, in ecosystems where there is a higher level of conservation of mature or old growth, the requirement for stand level retention is lower. Wildlife Tree Patches or Wildlife Tree Retention Areas are required to be retained until the trees on the harvested area, for which the retention applies, develop attributes that are consistent with mature seral condition. There are exceptions under the Landscape Unit Objectives and *Forest Planning and Practices Regulation* whereby a specific process may be followed to harvest a Wildlife Tree Patch or Wildlife Tree Retention Area. However, these exceptions also contain requirements to replace the original retention areas with similar or better retention areas.

Teal has proposed Forest Stewardship Plan strategies that will provide for both the protection of wildlife and biodiversity under this objective and administrative efficiencies in the management of retention areas. For example, in the case of the latter, if a new road location requires the harvest of part of an existing Wildlife Tree Patch or Wildlife Tree Retention Area, a replacement area of equal or better quality and quantity would need to be located nearby. Or, for example, if the original Wildlife Tree Patch or Wildlife Tree Retention Area caused the isolation of trees, trees that could not be subsequently harvested due to topographic limitations, a situation that could be deemed contrary to the government's objective for timber supply, then the original retention area would be relocated. This action would therefore achieve both forestry objectives. The process to salvage windthrown or unhealthy trees is outlined in the current Landscape Unit Objectives; however, Teal has proposed that burnt trees be added to the salvage process.

This Forest Stewardship Plan contains specific strategies that allow for the careful relocation of Wildlife Tree Patches or Wildlife Tree Retention Areas. These strategies are closely aligned with the Landscape Objectives and *Forest Planning and Practices Regulations* governing the replacement of retention areas. The general process is described as follows:

A Qualified Professional will consult with either the original signing Professional or the Licensee to determine the significance of the original retention area. For instance, was the retention area delineated to protect a specific non-timber feature or was it the retention area's stand attributes that required critical protection for the maintenance of wildlife or biodiversity values. The Qualified Professional could then determine if replacement of the retention area, or portion thereof, is appropriate. If replacement is appropriate, the Qualified Professional would determine an area of equivalent or better qualities according to the characteristics of the original retention area. The Wildlife Tree Patch or Wildlife Tree Retention Area amendments would be reported to government

either by providing a notice containing the information required to update the RESULTS application or by making the RESULTS data entry directly.

## **Cultural Heritage Resources**

### **Forest Stewardship Plan Section 8.2.7**

Under the *Forest Planning and Practices Regulation Section 10* the objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are

- (a) the focus of traditional use by an aboriginal people that is of continuing importance to that people, and
- (b) not regulated under the *Heritage Conservation Act*.

For the purpose of this strategy “**Aboriginal People**” (as used in FPPR Section 10) means an indigenous people whose asserted traditional territory overlaps with a **FDU** within this **FSP**. The term “**Indigenous People**” will be used in this **FSP**.

This strategy provides protection of resources that are of particular importance to Indigenous People and that are not protected under other legislation (e.g., Archaeological features are protected under the Heritage Conservation Act).

In order to identify Cultural Heritage Resources or other concerns from Indigenous communities, Teal undertakes an information sharing process that is based upon standards created through government-to-government agreements and catered to each First Nation. Some First Nations have or may wish to enter into formal information sharing protocol agreements for the referral process with government ministries or Teal; in those cases, Teal complies with the agreement with respect to timelines and content of information sharing packages. For those First Nations that do not enter into protocol agreements, Teal works with specific First Nations and government to ensure information sharing is appropriate.

Where Cultural Heritage Resources are identified, Teal works with the local Indigenous communities to develop an appropriate management strategy.

Cedar and cypress trees are particularly important to many First Nations; therefore, this resource may be the subject of a specific agreement that is made for identifying a current and or future supply.

## **Fish Habitat in Fisheries Sensitive Watersheds**

Under the *Forest Planning and Practices Regulation Section 8.1* the objective set by government for Fish Habitat in Fisheries Sensitive Watersheds is

- (1) In this section “fisheries sensitive watershed” means an area identified in Schedule 2 of this regulation with significant downstream fisheries values continued under Section 180 (f) of the Act and significant watershed sensitivity continued under Section 180 (g) of the Act, and for which there is no fisheries sensitive watershed objective.

- (2) Until December 31, 2005 the objective set by government for fish habitat in fisheries sensitive watersheds is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities in the fisheries sensitive watershed from resulting in a material adverse impact on the habitat of the fish species for which the fisheries sensitive watershed was established.
- (3) The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.
- (4) If satisfied that the objective set out in subsection (2) is not required to provide special management, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.
- (5) If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

No fisheries sensitive watersheds have been established within the area covered by the Forest Stewardship Plan; therefore, results or strategies are not specified in the Forest Stewardship Plan for this objective.

### **8.3 Objectives Enabled in Government Action Regulation**

#### **Scenic Areas and Visual Quality Objectives**

Visual quality management involves meeting Visual Quality Objectives for designated (or 'known') scenic areas. Visual Quality Objectives are established by Government agencies or contained in Higher-Level Plans; these Objectives reflect the desired level of visual quality based on the physical characteristics and social concern for viewscales.

##### **Forest Stewardship Plan Section 8.3.1**

Under the *Forest Planning and Practices Regulation* Section 9.2 the objectives set by government for Visual Quality do not apply, as visual quality objectives for the area covered by this Forest Stewardship Plan have been established under the *Government Action Regulation* Section 17.

In the Chilliwack Natural Resource District, Scenic areas were previously made 'known' and established under the *Forest Practice Code* and later continued under current legislation under *Section 17 of Government Action Regulation*. The letter signed by the District Manager (Chilliwack Forest District October 1, 1999) establishing these scenic areas can be found in Appendix 4.

Within Visually Sensitive Areas, visual design concepts and principles are incorporated into cutblock and road design. Each proposed cutblock is assessed using modeling tools to predict the impact of proposed cutblock design on the landscape and determine if the visual impact meets the Visual Quality Objective. Where proposed cutblock size and shapes do not meet Visual Quality Objectives, cutblock design is modified.

Qualified Professionals evaluate site specific values or conditions during the planning stages to determine if proposed activities meet Visual Quality Objectives.

For the purposes of the categories of visually altered forest landscape described in *Forest Planning and Practices Regulation Section 1.1*, a significant public viewpoint is interpreted as follows:

A view point on land or water that is determined by a Qualified Professional to be significant to the public, which may include: a view point included in the most recent Visual Landscape Inventory; prolonged views along main travel routes; popular rest stops; recreational sites; or public residences. Rationale for the selection of the viewpoint(s) by the Qualified Professional will be documented. In order to determine if the design of timber harvesting and road construction activities meet the Visual Quality Objective, visual impact assessments will be completed on a unit in consideration of generally accepted visual landscape design concepts and principles as outlined in publications such as the Visual Impact Assessment Guidebook (January 2001).

For the purposes of defining a measurable or verifiable result with respect to meeting the visual quality objective, the following conditions apply in these situations:

- (i) dead or damaged stands are considered to have the same visual quality as though they were undisturbed; and
- (ii) power lines and utility corridors are not considered to impact visual quality in respect of the proportion of the landscape that is altered.

### **Karst Resource Features**

The term “karst” applies to a distinctive type of landscape that develops from the dissolving action of water on soluble bedrock. Karst landscapes are characterized by fluted and pitted rock surfaces, shafts, sinkholes, sinking streams, springs, subsurface drainage systems, and caves. Karst landscapes are developed as a result of a complex combination of geology, climate, topography, hydrology, and biological factors.

#### **Forest Stewardship Plan Section 8.3.2**

Under the *Government Action Regulation Section 5* Karst Resource Features, in the Chilliwack Natural Resource District (June 1, 2010) were identified (see Appendix 5); specifically surface or subsurface elements of a karst system (i.e., karst caves, the important features and elements within very high or high vulnerability karst terrain and significant surface karst features). Where karst resource features are identified, a Qualified Professional conducts an assessment and provides management strategies.

### **Kweh-Kwuch-Hum Cultural Heritage Resource Feature**

#### **Forest Stewardship Plan Section 8.3.3**

Under the *Government Action Regulation Section 5* the Kweh-Kwuch-Hum Cultural Heritage Resource Feature was identified, in the Chilliwack Natural Resource District (June 23, 2008) (see Appendix 6). Teal does not conduct any activities within the area.

## Recreation Resource Features

*Forest Planning and Practices Regulation Section 70(1)* states “An authorized person who carries out a primary forest activity must ensure that the primary forest activity does not damage or render ineffective a resource feature.”

Designated Recreation Resource features, such as established recreation trails, recreation sites and interpretive forests that are found within the Forest Development Units in Teal’s Forest Stewardship Plan will be managed consistent with established objectives and/or measures. Where there are no established objectives and/ or measures, Teal will seek guidance from the Chilliwack Natural Resource District Recreation Officer.

There are multiple recreation features that are not recognized by designations (i.e., unidentified by government) at this time, however Teal recognizes these recreation features may be very important to certain sectors of the public or recreational user groups. Teal has a robust communications protocol with recreation user groups and a history of working with individuals and groups to ensure appropriate management of recreation values. Additionally, guidance from the Chilliwack Natural Resource District Recreation Officer may be solicited where appropriate.

## 9 MEASURES

### Invasive Plants

Forest Stewardship Plan Section 9.1

For the purposes of the *Forest and Range Practices Act Section 17*, a person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the *Invasive Plants Regulation*, if the introduction or spread is likely to be the result of the person’s forest practices.

The *Invasive Plants Regulation* provides a provincial listing of the plants that are considered “weeds” and have invasive habits.

Teal has committed to the following practices:

(a) Teal’s Qualified Professionals, who have had invasive plant training and experience, will observe and report the invasive plant establishment and spread.

(b) Teal will endeavor to limit or prevent the introduction or spread of invasive plants in areas where invasive plants have been identified in areas where more than 0.25 contiguous hectares of mineral soil has been exposed by road or landing construction or scarification within a cutblock. The Qualified Professional will consider revegetation activities in light of regulatory requirements for that species, and the results of a risk-based assessment of the invasive species’ biology, and site-specific factors.

(c) Teal will re-vegetate disturbed sites that qualify using high quality native grass and legume seed mixes.

## Natural Range Barriers

### Forest Stewardship Plan Section 9.2

For the purposes of *Forest and Range Practices Act Section 48*, a person who prepares a Forest Stewardship Plan must specify measures in the plan to mitigate the effect of removing or rendering ineffective natural range barriers.

There are currently no range areas within the area covered by this Forest Stewardship Plan; therefore, the measure includes a frequent review of range tenures. Where a range tenure is identified that could potentially be impacted by Teal's planned forestry activities, Teal will share information with the range tenure holder prior to the commencement of primary forest activities and where applicable, mitigate the effect of removing or rendering ineffective natural range barriers.

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## 10 STOCKING STANDARDS

Forest Stewardship Plan Section 10(a) through (o).

Reforestation, successful regeneration or a 'Free Growing' stand is defined within the approved stocking standards. The standards vary for each Biogeoclimatic Subzone and variant, but in general, the standards require a minimum number of well-spaced stems per hectare of an ecologically and commercially suitable species, of good form and vigour. The Appendix 3 Stocking Standards indicate Ecologically and Commercially Suitable Species. The Qualified Professional will first evaluate the stand prior to harvest to determine its ecological classification. Ecological classification considers the geographic location, topography, slope position, soil characteristics, plant communities and existing timber profile. Commercial tree species that are ecologically suited to the site and have the following timber objective attributes will be selected for reforestation:

- productive;
- reliable; and
- silviculturally feasible.

The Qualified Professional may also consider other non-timber objectives in the selection of reforestation species. These may include:

- desired stand structure;
- pest management; and
- biological diversity.

- (a) *Forest and Range Practices Act Section 29* requires reforestation of harvested areas in accordance with Stocking Standards found in the Forest Stewardship Plan Appendix 3.
- (b) In selecting the appropriate tree species Qualified Professionals will consider the *Forest Planning and Practices Regulation Section 6 Schedule 1 factors relating to stocking specifications*.
- (c) As per *Forest Planning and Practices Regulation Section 44*, the Teal will establish a free growing stand of trees, meeting the applicable stocking standard, within 20 years of harvest. This regulation also outlines where there are exemptions from establishing a Free Growing stand. For example, in road right of ways, where trees are felled for safety or to create recreational site or trail, etc.
- (d) *Forest Planning and Practices Regulation Section 45* is not applicable to the area covered by this Forest Stewardship Plan.
- (e) Teal may from time to time replace the stocking standards for older cutblocks with the current Forest Stewardship Plan stocking standards.
- (f) The even-aged stocking standards apply to those cutblocks that are being managed as an even-aged silviculture system. An even-aged silviculture system occurs when a stand of timber is removed and replaced with a uniform-aged crop of trees.

- (g) The Forest Stewardship Plan contains no uneven- aged stocking standards.
- (h) Teal may identify blocks or standards units within cutblocks that will be reforested with hardwood species. Appendix 3 contains the hardwood stocking standards by Biogeoclimatic Subzones.
- (i) Intermediate cutting is a harvesting treatment that is intended for the extraction of a specific forest product, for instance cedar poles or house logs. This activity occurs prior to final clear felling of the cutblock. Commercial thinning, a silviculture treatment that removes merchantable and competing timber from a stand to improve the growing conditions for the remaining co-dominant and dominant crop trees, is another form of intermediate cutting.
- (j) Teal has proposed another form of partial cutting, one that removes timber but maintains broad forest cover in order to meet non-timber objectives. In the Forest Stewardship Plan this has been described as Single Stem Harvesting. There are areas within the Timber Harvesting Landbase that, due to non-timber objectives, are highly constrained from conventional harvesting practices (e.g., visually sensitive landscape, unstable terrain that would not support roads or conventional harvest systems, etc.). These areas, under the prescription of a Qualified Professional, could be sensitively managed by partial cutting a limited amount of the profile from the stand. The stand would retain more than 40 square metres of basal area. Any large gaps created in the canopy, that exceeded 0.25 ha would be regenerated as per an even-aged or SEDRSS stocking standard.
- (k) Similar to Single Stem Harvesting described above in (j), Single Entry Dispersed Retention silviculture systems may be prescribed, in unique circumstances. These stands will be partially harvested leaving between 5 and 40 square metres of basal area retention. Single Entry Dispersed Retention Stocking Standards (SEDRSS) will be applied in those areas that are highly constrained by non-timber objectives where conventional harvesting is prohibited or limited. In addition, the primary objectives for the management of the area are to maintain or enhance non-timber values. SEDRSS units also have reforestation obligations. In this case, residual timber is permitted to contribute towards meeting the reforestation obligation.

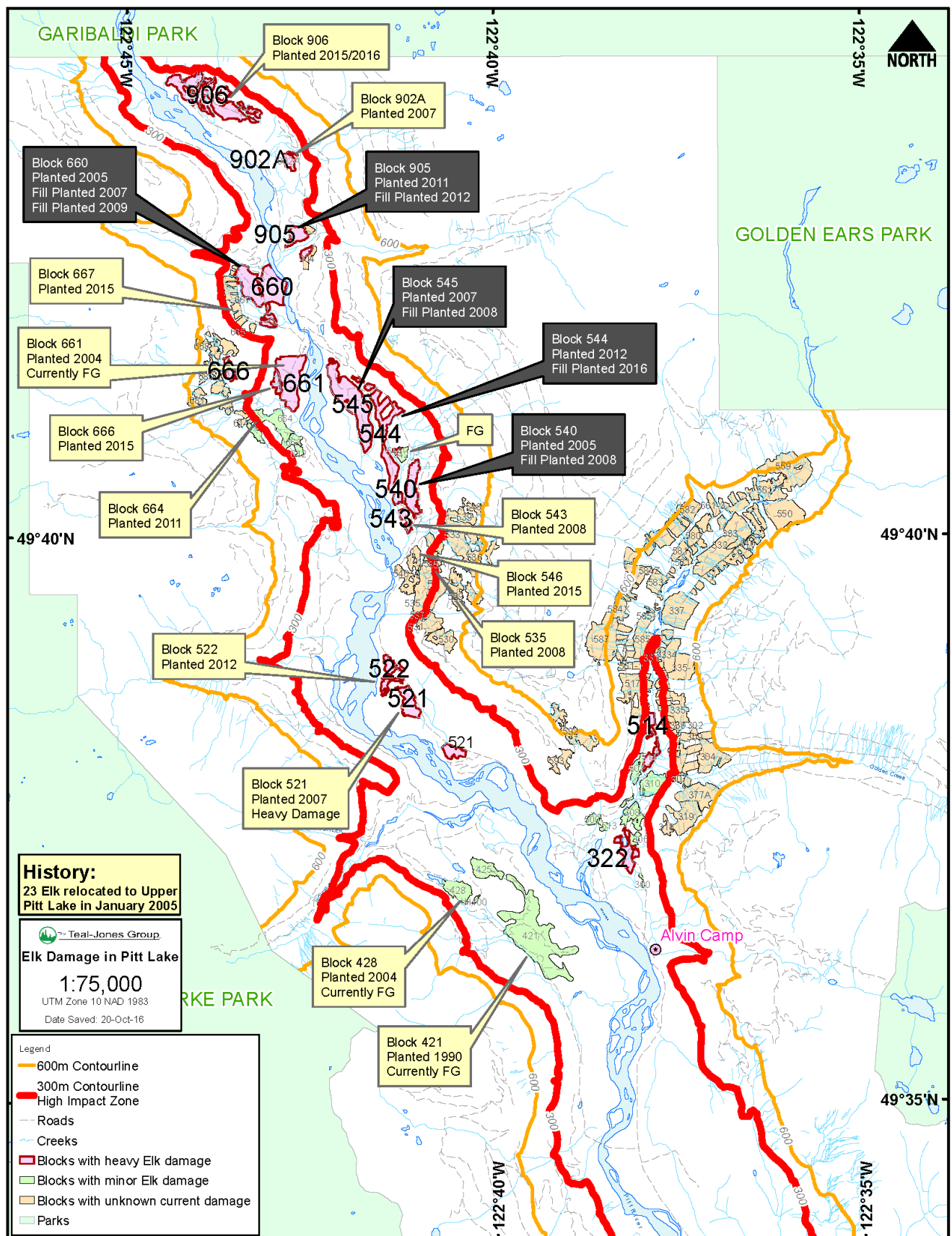
Teal's SEDRSS and free growing survey criteria are partly adapted from the joint Ministry of Forests, Land and the Natural Resource Operation/Licensee Coast Region Implementation Team guidelines. However, Teal's local knowledge and experience has been used to modify the SEDRSS to reflect the Fraser Timber Supply Area conditions.

- (l) *Forest Planning and Practices Regulation* requires stocking standards for units that are harvested for special forest products. For example, Teal may cut shakes and shingle bolts, blocks and blanks. In these areas all live trees will be retained.
- (m) Roosevelt Elk were re-introduced to the Fraser Timber Supply Area in 2004. Since the initial transplant of the species into the upper Pitt River valley, Teal has witnessed the dramatic impact of the growing elk herds on forest plantations. Elk tend to congregate on flat or gently sloped terrain where there is nearby forest cover and a good food source. Teal has evidence that demonstrates, in the case of Pitt River, that elk impacts can be expected on such ground that is located below the

300m contour. That is, the valley bottom to lower slopes of the Pitt River valley. In addition, elk have been introduced into the nearby Stave River Valley. Due to the geographic similarities between Pitt River valley and the nearby Stave River valley, the standard has been applied to both areas. These are defined as High Impact Zones.

In the High Impact Zones, the elk impacts to planted seedlings are immediate and dramatic. Despite Teal's best attempts to promptly reforest these sites, elk browse and trampling quickly reduce the quantity and quality of regeneration, often reducing it near or below the minimum stocking standard. The remaining regeneration is often damaged beyond acceptance for free growing. Figure 3: Heavy Elk Damage in Pitt Lake illustrates for the Pitt River valley the history of elk damage in the high impact zone. The end result is that elk behavior highly influences in the development of stand structure and vegetation. Their browsing and herding instincts create natural openings in the forest canopy that will lead to mixed coniferous/deciduous stands of variable timber density, reduced merchantable volumes and values. Elk, through their browsing habits can shift understory vegetation complexes. These conditions present challenges for Forest Professionals who strive to achieve traditional timber management objectives. Where elk exist in high populations, the productivity of the site in terms of timber volume and value should be expected to diminish. The proposed stocking standards reflect this reduced expectation for site productivity.

Given Teal's knowledge of the sites, Forest Professionals now have the ability to predict where the significant elk impacts will occur. The proposed elk stocking standards reasonably reflect the capacity of the high impact sites to grow and maintain trees through the free growing period. The proposed elk stocking standard targets 50% of the current even aged stocking standard. This standard allows Teal to focus its reforestation efforts on those microsites within the High Impact Zone where there is a higher likelihood of regeneration success. In order to apply the elk stocking standard within the High Impact Zone Forest Professionals will need to assess the presence of elk both within and adjacent to the cutblock. In addition, assessment of the cutblock topography will be completed to determine if the site is physically suitable for the congregation of elk in the plantation. If these conditions are met, then the elk stocking standard will apply to that cutblock.



Outside of the High Impact Zones, Roosevelt Elk continue to be transplanted. In the Fraser Timber Supply Area, this includes areas such as West Harrison and Chehalis Valley. Forest Professionals will continue to see increasing impacts on regeneration throughout the Timber Supply Area. However, given that these elk relocations are fairly recent and that these areas are geographically dissimilar from the Pitt River and Stave River, they fall outside of the High Impact Zone and therefore the elk stocking standards will not be assigned as part of the pre-harvest Site Plans. Instead, the Forest Stewardship Plan standard allows for the conditional amendment to a High Impact Zone elk stocking standard if and when elk impacts are documented within these plantations.

- (n) The Forest Stewardship Plan allows for a reduction in the minimum spacing between crop trees. This is referred to as the minimum inter-tree distance (MITD). Reductions in the minimum inter-tree distance recognize that some sites are more difficult to reforest given the limitations of the site. These limitations may be physical (e.g. non-productive rock, standing water or overhead trees) or ecological (e.g. lower site productivity, wildlife).
- (o) In addition to the Appendix 3 stocking standards there is an allowance for up to 5% acceptance of trees species not listed in the applicable stocking standard to be present on site. This recognizes that from time to time a species might establish within a block that was not expected or described in the Site Plan. For example, Douglas-fir might establish on dry rocky outcrops within a high elevation cutblock. On this site Douglas-fir might not normally be expected to re-establish but given its performance and possible contribution to biological diversity should be accepted as a limited contribution to the stand.

In addition, an allowance of up to 5% of broad leaf species composition in riparian management areas is permitted. This provides for species diversity and reduces the need to control all deciduous species that might occupy the site. This small allowance will not significantly impact the objective of establishing a conifer timber crop and contributes to biodiversity and wildlife objectives.

In addition, in root rot areas with over 40% incidence, alternate species to Douglas-fir will be planted. Also, up to 20% natural Douglas-fir with good form and vigour will be acceptable at free growing in these areas.

In addition, in an effort to reduce white pine weevil (*Pissodes strobi*) damage on spruce crop trees, deciduous vegetation may be assessed as noncompeting brush. A Professional Forester must write a rationale stating that the spruce crop trees on the site are at an unacceptable increased risk for damage from white pine weevil if the overtopping vegetation is removed. Observations have shown that in areas where the overtopping vegetation is not removed from the spruce crop trees, a merchantable crop often results. An active *Pissodes strobi* population must be present within the block or within one kilometer of the block to apply this standard.

## Climate Change

There is increasing evidence to support climate change in the Fraser Timber Supply Area. In recent years, Teal has witnessed increased seedling mortality due to drought and the increased presence of pests and diseases in stands of all ages.

This Forest Stewardship Plan incorporates management strategies within the stocking standards that provide Teal with the flexibility to practice adaptive management with respect to climate change. This management may include leaving some mature trees in drought-prone blocks to provide shade for newly planted stock. The stocking standards also provide the opportunity to choose tree species for blocks based on observations and predicted heat-related ecosystem changes.

All trees planted by Teal use BC's Climate Based Seed Transfer (CBST). CBST has been adopted by government to promote healthy, resilient and productive forests and ecosystems through the matching of seedlings/seedlots to future (projected) planting site climates. CBST is the result of government studies that show the impacts of shifting climate and the subsequent ecological responses. Models are now available that predict the shifting Biogeoclimatic Zones across the Fraser Timber Supply Area.

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*PART OF THE*



# Appendix 1

Land Use Plans/Established Landscape Units Orders



File: ORCS 17580-55/ Fraser Canyon

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**AINSLIE LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Ainslie Landscape Unit, an area located on the east side of the Fraser Canyon, Chilliwack Forest District, effective January 13, 2004, 2004.

The boundaries of the Ainslie Landscape Unit are shown on the Ainslie Landscape Unit map, dated December 11, 2003, attached to this Order.

In addition, I hereby establish objectives for the Ainslie Landscape Unit, as attached to this Order, effective January 13, 2004, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Legal Objectives for the Ainslie Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Ainslie Landscape Unit. The goal of these objectives is to sustain biological diversity at the landscape level; exemptions are included to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Objective 1**

1. Maintain or recruit old growth forests in designated old growth management areas (OGMAs), as shown on the attached Ainslie Landscape Unit map dated December 11, 2003. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMAs except as specified in section 2 and 3 below.
2. The Delegated Decision Maker (DDM) may allow operations to occur within an OGMA for reasons such as:
  - (1) To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. This will be done in a manner that retains as many old growth forest attributes as possible.
  - (2) Construction of roads and yarding corridors if no other practicable option exists.
3. Exemptions:
  - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
  - (3) Road construction can occur in OGMA #74 and #28 as required to access resource values beyond the OGMA.
  - (4) OGMAs that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
    - a) 10 ha in variant CWHms1,
    - b) 60 ha in variant ESSFmw, and
    - c) 60 ha in variant IDFww,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
    - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed development affects the OGMA by <10%.

- iv) Construction of  $\leq 500\text{m}$  of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.
  - v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by  $<0.5$  ha.
- (5) Intrusions, other than those specified in (4) above, that affect an OGMA by less than 0.5 hectare in total.
4. Exemption 3(4) above does not apply to the following OGMAs: #73, 76, 97, 102, 104, 112, 113, 115, 116, 132, 141.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock  $>10$  ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, live or dead veteran trees (excluding danger trees), or remnant old growth patches.
- (6) WTPs must include representative larger trees for the stand and any existing moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Ainslie Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subarctic)	12
CWH ms (Coastal Western Hemlock, moist subarctic)	11
ESSF mw (Engelmann Spruce-Subalpine Fir, moist warm subzone)	5
ESSF dc (Engelmann Spruce-Subalpine Fir, dry cold subzone)	9
IDF ww (Interior Douglas-fir, wet warm subzone)	8



File: ORCS 17580-55/ Fraser Canyon

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**ANDERSON LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Anderson Landscape Unit, an area located on the east side of the Fraser Canyon, Chilliwack Forest District, effective January 13, 2004, 2004.

The boundaries of the Anderson Landscape Unit are shown on the Anderson Landscape Unit map, dated December 11, 2003, attached to this Order.

In addition, I hereby establish objectives for the Anderson Landscape Unit, as attached to this Order, effective January 13, 2004, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Legal Objectives for the Anderson Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Anderson Landscape Unit. The goal of these objectives is to sustain biological diversity at the landscape level; exemptions are included to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Objective 1**

1. Maintain or recruit old growth forests in designated old growth management areas (OGMAs), as shown on the attached Anderson Landscape Unit map dated December 11, 2003. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMAs except as specified in section 2 and 3 below.
2. The Delegated Decision Maker (DDM) may allow operations to occur within an OGMA for reasons such as:
  - (1) To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. This will be done in a manner that retains as many old growth forest attributes as possible.
  - (2) Construction of roads and yarding corridors if no other practicable option exists.
3. Exemptions:
  - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
  - (3) OGMAs that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
    - a) 15 ha in variant CWHds1,
    - b) 80 ha in variant CWHms1,
    - c) 40 ha in variant ESSFmw,
    - d) 35 ha in IDFww, and
    - e) 50 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
    - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed development affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.

- v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
- (4) Intrusions, other than those specified in (3) above, that affect an OGMA by less than 0.5 hectare in total.
- 4. Exemption 3(3) above does not apply to the following OGMAs: # 29, 35, 36, 51, 63, 64, 79, 80, 87, 99, 100.
- 5. In OGMA #87, 30-50% basal area removal may occur within the Riparian Management Zone adjacent to the Anderson River.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any existing moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Anderson Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry maritime)	9
CWH ms (Coastal Western Hemlock, moist maritime)	9
ESSF mw (Engelmann Spruce-Subalpine Fir, moist warm subzone)	6
MHmm (Mountain Hemlock, moist maritime subzone)	7
IDF ww (Interior Douglas-fir, wet warm subzone)	5



File: ORCS 17580-30/BISI

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**BIG SILVER LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Big Silver Landscape Unit, an area located near Harrison Lake and in the vicinity of the Big Silver River, effective June 24<sup>th</sup>, 2005.

The boundaries of the Big Silver Landscape Unit are shown on the Big Silver Landscape Unit map dated 2 December 2004 accompanying this Order.

In addition, I hereby establish Landscape Unit Objectives for the Big Silver Landscape Unit, as attached to this Order, effective June 24<sup>th</sup>, 2005.

(Original signed by)

June 7<sup>th</sup>, 2005

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives – Big Silver Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are Landscape Unit Objectives for the Big Silver Landscape Unit.

### Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Big Silver Landscape Unit map dated 2 December 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
  2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
    - i) 30 ha in variant CWHds1,
    - ii) 25 ha in variant CWHms1, and
    - iii) 25 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
  - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
    - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
  - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
  - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #1, 10, 42, 45, 48, 69, 90, 94, 101, 109, 111 and the mapped old forest portion in all OGMAs in the CWHds1.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Big Silver Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subarctic)	9
CWH ms (Coastal Western Hemlock, moist subarctic)	9
MH mm (Mountain Hemlock, moist maritime)	5



File: ORCS 17580-02/Chehalis

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**CHEHALIS LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Chehalis Landscape Unit, an area located near the Lower Mainland, north of the Fraser River – Chilliwack Forest District, effective March 15, 2006.

The boundaries of the Chehalis Landscape Unit are shown on the Chehalis Landscape Unit map dated January 31, 2006 attached to this Order.

In addition, I hereby establish objectives for the Chehalis Landscape Unit, as attached to this Order, effective March 15, 2006.

“Original signed by”

“January 30, 2006”

**Lindsay Jones**  
**Acting Regional Director, Coast Region**  
**Integrated Land Management Bureau**  
**Ministry of Agriculture and Lands**

**Date**



## **Preamble**

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Legal Objectives – Chehalis Landscape Unit**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are the landscape unit objectives for the Chehalis Landscape Unit.

#### ***Objective 1 - Old Growth Management Areas (OGMAs)***

##### **1. Maintenance or recruitment of old growth forests**

Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Chehalis Landscape Unit map dated January 31, 2006, subject to timber harvesting and road construction in accordance with section 2 and 3 below.

##### **2. Permissible activities within OGMAs**

- (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.
- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.



- (3) Construction of  $500 \leq m$  of road or a bridge within an OGMA where there is no other practicable option, provided that replacement OGMA is identified.
- 4) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
- 5) Where OGMA replacement forest is required as a result of activities under 2.(1), 2.(2) or 2.(3), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

3. Permissible Activities for Safety Purposes:

- 1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
- 2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements

***Objective 2 – Wildlife Tree Patches (WTPs)***

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A, is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.



- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC Subzone in the Chehalis Landscape Unit.**

BEC Subzone	% Wildlife Tree Retention
CWH dm (Coastal Western Hemlock, dry maritime)	10
CWH vm (Coastal Western Hemlock, very moist)	10
MH mm (Mountain Hemlock, moist maritime)	5



File: ORCS 17580-30/Coquihalla

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**COQUIHALLA LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Coquihalla Landscape Unit, an area located east of Hope, BC in the Chilliwack Forest District, effective April 14, 2004.

The boundaries of the Coquihalla Landscape Unit are shown on the Coquihalla Landscape Unit map, dated March 10, 2004, attached to this Order.

In addition, I hereby establish objectives for the Coquihalla Landscape Unit, as attached to this Order, effective April 14, 2004

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives - Coquihalla Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Coquihalla Landscape Unit.

### **Objective 1**

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Coquihalla Landscape Unit map dated March 10, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
  2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
    - i) 20 ha in variant CWHds1,
    - ii) 80 ha in variant CWHms1,
    - iii) 25 ha in variant ESSFmw, and
    - iv) 80 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
  - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that ecological attributes and spatial distribution are maintained or improved:
    - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
  - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
  - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #39, 98, 131, 135, 155, 170, 187.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

### **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the ESSFmw subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Coquihalla Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subaritime)	6
CWH ms (Coastal Western Hemlock, moist subaritime)	7
ESSF mw (Engelmann Spruce Subalpine Fir moist warm subzone)	0
MH mm (Mountain Hemlock, moist maritime)	5



File: ORCS 17580-30/EHAR

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**EAST HARRISON LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the East Harrison Landscape Unit, an area located near Harrison Lake and Harrison Hot Springs, effective June 24<sup>th</sup>, 2005.

The boundaries of the East Harrison Landscape Unit are shown on the East Harrison Landscape Unit map dated 2 December 2004 accompanying this Order.

In addition, I hereby establish Landscape Unit Objectives for the East Harrison Landscape Unit, as attached to this Order, effective June 24<sup>th</sup>, 2005.

(Original signed by)

June 7<sup>th</sup>, 2005

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives – East Harrison Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are Landscape Unit Objectives for the East Harrison Landscape Unit.

### Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached East Harrison Landscape Unit map dated 2 December 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:

- i) 40 ha in variant CWHdm,
- ii) 15 ha in variant CWHds1,
- iii) 20 ha in variant CWHms1,
- iv) 5 ha in variant CWHvm1,
- v) 40 ha in variant CWHvm2,
- vi) 45 ha in variant MHmm1, and
- vii) 15 ha in variant MHmm2,

provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.

- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
  - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
  - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
  - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
  - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #22, 24, 25, 27, 109, 175, 207, 223, 246, 253 and the mapped old forest portion of all OGMAs in the CWHdm and CWHds1 variants.

3. Permissible Activities:

- (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA. Salvage within OGMA will be done in a manner that retains as many old growth forest attributes as possible.
- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
- (3) Road construction can occur in OGMA # 201 and 205 to access resource values beyond the OGMA.
- (4) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
- (5) Where OGMA replacement forest is required as a result of activities under 3 (1) (2) or (3), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

4. Permissible Activities for Safety Purposes:

- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
- (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

**Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the East Harrison Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH dm (Coastal Western Hemlock, dry maritime)	9
CWH ds (Coastal Western Hemlock, dry submarine)	8
CWH ms (Coastal Western Hemlock, moist submarine)	8
CWH vm (Coastal Western Hemlock, very wet maritime)	12
MH mm (Mountain Hemlock, moist maritime)	7



## **Preamble**

This order establishes objectives for Old Growth Management Areas within six Landscape Units located in the Chilliwack Forest District.

The goal of these objectives is to contribute to biological diversity at the landscape level.

This preamble is intended to provide context and background; it does not, however, form part of the order.

# PROVINCE OF BRITISH COLUMBIA

## Ministry of Forests, Lands and Natural Resource Operations

### Ministerial Order

Land Use Objectives for Old Growth Management Areas (OGMAs) within the Alouette, Fraser Valley South, Hatzic, Pitt, Stave, and Widgeon Landscape Units (LUs) situated within the Chilliwack Forest District.

### Part 1 - Interpretation

1. Pursuant to Section 93.4 of the *Land Act*, the following objectives are established as land use objectives for the purposes of the *Forest and Range Practices Act (FRPA)* and apply to OGMAs within the Alouette, Fraser Valley South, Hatzic, Pitt, Stave, and Widgeon LUs, as shown in the maps set out in Schedule A and contained in the OGMA spatial layer stored in the Geographic Warehouse (WHSE\_LAND\_USE\_PLANNING.RMP\_OGMA\_LEGAL\_CURRENT\_SV W).
2. If there is a discrepancy between the areas shown in the maps set out in the attached Schedule A and the OGMA spatial layer stored in the Geographic Warehouse (WHSE\_LAND\_USE\_PLANNING.RMP\_OGMA\_LEGAL\_CURRENT\_SV W), the areas as detailed in the OGMA spatial layer will take precedent.
3. Nothing in, under or arising out of this order either abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nation, nor relieves the Province of any obligation to consult with any applicable First Nation.

## Part 2 - Objectives

### 4. Objectives for Old Growth Management Areas

- (1) Retain forests in the OGMA identified in 1 in the amounts set out in Table A as shown in the maps set out in Schedule A, except where necessary for the following:
  - a) Topping or pruning of trees along boundaries necessary to improve wind firmness.
  - b) Sanitation to prevent the spread of insect infestations or diseases that pose significant threat to forested areas.
  - c) Removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way necessary for safety purposes.
  - d) Recreation trail and site maintenance or development to address public safety.
  - e) Felling trees for guyline clearance or tailholds. Any trees felled for tailhold or guyline purposes are to be left on site to function as coarse woody debris, unless the felled trees poses a significant risk to forest health.
- (2) In addition to 4 (1) (a) to (e), harvesting within any OGMA is permitted, provided that all the following apply:
  - (a) Harvesting is required to provide for:
    - i. a logical harvesting boundary, or
    - ii. road or bridge construction to access resource values beyond or adjacent to the OGMA and no other practicable option for road or bridge location exists;
  - (b) The area harvested does not exceed the greater of:
    - i. two hectares, or
    - ii. 5 % of the area of the OGMA; and
  - (c) The biological diversity of the OGMA is maintained.
- (3) Replacement forest is required if the total area of an OGMA that is subject to the activities pursuant to 4 (1) and 4 (2) exceeds 0.5 ha. Replacement forest must be of an equal or greater area of forest, with equivalent or greater ecological attributes, in order of priority:
  - (a) Contiguous to the OGMA in the same BEC subzone or variant; or,
  - (b) Contiguous to another OGMA in the same BEC subzone or variant.
- (4) Area harvested and the area replacing the area harvested made in accordance with 4 (3), including attributes and rationale, must be documented and submitted to the delegated decision maker at the end of each calendar year. Digital spatial data must be as 'shape file' and BC Albers projection.


Table A. Minimum requirement of BEC Variant to be retained, by Landscape Unit

Landscape Unit	BEC Variant	Minimum requirement of BEC Variant to be retained as OGMA
		%
<b>Alouette</b>	CWHdm	> 9
	CWHvm1	> 13
	CWHvm2	> 13
	MHmm1	> 19
<b>Fraser Valley South</b>	CWHdm	> 9
	CWHds1	> 9
	CWHms1	> 9
	CWHvm2	> 13
	CWHxm1	> 9
	MHmm1	> 19
	MHmm2	> 19
<b>Hatzic</b>	CWHdm	> 9
	CWHvm1	> 13
	CWHvm2	> 13
	MHmm1	> 19
<b>Pitt</b>	CWHdm	> 9
	CWHvm1	> 13
	CWHvm2	> 13
	MHmm1	> 19
<b>Stave</b>	CWHvm1	> 13
	CWHvm2	> 13
	MHmm1	> 19
	MHmm2	> 19
<b>Widgeon</b>	CWHdm	> 9
	CWHvm1	> 13
	CWHvm2	> 13
	CWHxm1	> 9
	MHmm1	> 19

### Part 3 - Effective Date and Transition

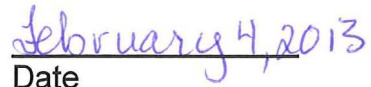
5. Application of this order

- (1) This order and the land use objectives in this order take effect on the date that notice of this order is published in the Gazette.



Heather MacKnight  
Regional Executive Director  
South Coast Region

Ministry of Forests, Lands and Natural Resource Operations



Date



File: ORCS 17580-30/Manning

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**MANNING LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Manning Landscape Unit, an area located east of Hope, BC in the Chilliwack Forest District, effective April 14, 2004.

The boundaries of the Manning Landscape Unit are shown on the Manning Landscape Unit map, dated March 10, 2004, attached to this Order.

In addition, I hereby establish objectives for the Manning Landscape Unit, as attached to this Order, effective April 14, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### Legal Objectives - Manning Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Manning Landscape Unit.

#### **Objective 1**

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Manning Landscape Unit map dated March 10, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
  - i) 35 ha in variant CWHms1,
  - ii) 10 ha in variant ESSFmw, and
  - iii) 20 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
  - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
  - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
  - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
  - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #3, 4, 5, 59, 73, 86, 92, 126, 129, 135, 136, 138.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

### **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the ESSFmw subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Manning Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subaritime)	2
CWH ms (Coastal Western Hemlock, moist subaritime)	4
ESSF mw (Engelmann Spruce Subalpine Fir moist warm subzone)	0
MH mm (Mountain Hemlock, moist maritime)	2



File: ORCS 17580-55/Fraser Canyon

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**MEHATL LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Mehatl Landscape Unit, an area located on the west side of the Fraser Canyon, Chilliwack Forest District, effective January 13, 2004, 2004.

The boundaries of the Mehatl Landscape Unit are shown on the Mehatl Landscape Unit map, dated December 11, 2003, attached to this Order.

In addition, I hereby establish objectives for the Mehatl Landscape Unit, as attached to this Order, effective January 13, 2004, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Legal Objectives for the Mehatl Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Mehatl Landscape Unit. The goal of these objectives is to sustain biological diversity at the landscape level; exemptions are included to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Objective 1**

1. Maintain or recruit old growth forests in designated old growth management areas (OGMAs), as shown on the attached Mehatl Landscape Unit map dated December 11, 2003. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMAs except as specified in section 2 and 3 below.
2. The Delegated Decision Maker (DDM) may allow operations to occur within an OGMA for reasons such as:
  - (1) To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. This will be done in a manner that retains as many old growth forest attributes as possible.
  - (2) Construction of roads and yarding corridors if no other practicable option exists.
3. Exemptions:
  - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
  - (3) Road construction can occur in OGMA #33 to access resource values beyond the OGMA.
  - (4) OGMAs that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
    - a) 10 ha in variant CWHds1,
    - b) 60 ha in variant CWHms1,
    - c) 20 ha in variant ESSFmw,
    - d) 5 ha in IDFww, and
    - e) 40 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
    - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed development affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the

- licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.
- v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
- (5) Intrusions, other than those specified in (4) above, that affect an OGMA by less than 0.5 hectare in total.

4. Exemption 3(4) above does not apply to the following OGMA's: # 6, 7, 10, 11, 12, 13, 14, 27, 36.

### **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any existing moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Mehatl Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry submarine)	6
CWH ms (Coastal Western Hemlock, moist submarine)	2
ESSF mw (Engelmann Spruce-Subalpine Fir, moist warm subzone)	2
IDF ww (Interior Douglas-fir, wet warm subzone)	5
MHmm (Mountain Hemlock, moist maritime subzone)	1



File: ORCS 17580-55/ Fraser Canyon

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**NAHATLATCH LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Nahatlatch Landscape Unit, an area located on the west side of the Fraser Canyon, Chilliwack Forest District, effective January 13, 2004, 2004.

The boundaries of the Nahatlatch Landscape Unit are shown on the Nahatlatch Landscape Unit map, dated December 11, 2003, attached to this Order.

In addition, I hereby establish objectives for the Nahatlatch Landscape Unit, as attached to this Order, effective January 13, 2004, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Legal Objectives for the Nahatlatch Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Nahatlatch Landscape Unit. The goal of these objectives is to sustain biological diversity at the landscape level; exemptions are included to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Objective 1**

1. Maintain or recruit old growth forests in designated old growth management areas (OGMAs), as shown on the attached Nahatlatch Landscape Unit map dated December 11, 2003. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMAs except as specified in section 2 and 3 below.
2. The Delegated Decision Maker (DDM) may allow operations to occur within an OGMA for reasons such as:
  - (1) To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. This will be done in a manner that retains as many old growth forest attributes as possible.
  - (2) Construction of roads and yarding corridors if no other practicable option exists.
3. Exemptions:
  - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
  - (3) OGMAs that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
    - a) 10 ha in variant CWHds1,
    - b) 75 ha in variant CWHms1,
    - c) 70 ha in variant ESSFmw,
    - d) 70 ha in IDFww, and
    - e) 35 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
    - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed development affects the OGMA by <10%.

- iv) Construction of  $\leq 500\text{m}$  of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.
  - v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by  $<0.5$  ha.
- (4) Intrusions, other than those specified in (3) above, that affect an OGMA by less than 0.5 hectare in total.
4. Exemption 3(3) above does not apply to the following OGMAs: # 8, 9, 14, 28, 34, 53, 68, 77, 95, 108, 113, 125.

### **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock  $>10$  ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any existing moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Nahatlatch Landscape Unit.**

BEC Subzone	% Wildlife Tree Retention
CWH ds (Coastal Western Hemlock, dry subarctic)	3
CWH ms (Coastal Western Hemlock, moist subarctic)	7
ESSF mw (Engelmann Spruce-Subalpine Fir, moist warm subzone)	6
MHmm (Mountain Hemlock, moist maritime subzone)	8
IDF ww (Interior Douglas-fir, wet warm subzone)	4



File: ORCS 17580-30/Silverhope

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**SILVERHOPE LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Silverhope Landscape Unit, an area located south of Hope, BC in the Chilliwack Forest District, effective April 14, 2004.

The boundaries of the Silverhope Landscape Unit are shown on the Silverhope Landscape Unit map dated March 10, 2004, attached to this Order.

In addition, I hereby establish objectives for the Silverhope Landscape Unit, as attached to this Order, effective April 14, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives - Silverhope Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Silverhope Landscape Unit.

### Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Silverhope Landscape Unit map dated March 10, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
  - i) 6 ha in variant CWHds1,
  - ii) 90 ha in variant CWHms1, and
  - iii) 60 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
  - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
  - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
  - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
  - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #46, 76, 166.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Silverhope Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH dm (Coastal Western Hemlock, dry maritime)	5
CWH ds (Coastal Western Hemlock, dry submaritime)	6
CWH ms (Coastal Western Hemlock, moist subaritime subzone)	6
MH mm (Mountain Hemlock, moist maritime)	3



File: ORCS 17580-55/ Fraser Canyon

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**SPUZZUM LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Spuzzum Landscape Unit, an area located on the west side of the Fraser Canyon, Chilliwack Forest District, effective January 13, 2004.

The boundaries of the Spuzzum Landscape Unit are shown on the Spuzzum Landscape Unit map, dated December 11, 2004, attached to this Order.

In addition, I hereby establish objectives for the Spuzzum Landscape Unit, as attached to this Order, effective January 13, 2004, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Legal Objectives for the Spuzzum Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Spuzzum Landscape Unit. The goal of these objectives is to sustain biological diversity at the landscape level; exemptions are included to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

### **Objective 1**

1. Maintain or recruit old growth forests in designated old growth management areas (OGMAs), as shown on the attached Spuzzum Landscape Unit map dated December 11, 2003. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMAs except as specified in section 2 and 3 below.
2. The Delegated Decision Maker (DDM) may allow operations to occur within an OGMA for reasons such as:
  - (1) To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. This will be done in a manner that retains as many old growth forest attributes as possible.
  - (2) Construction of roads and yarding corridors if no other practicable option exists.
3. Exemptions:
  - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
  - (3) OGMAs that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
    - a) 10 ha in variant CWHds1,
    - b) 80 ha in variant CWHms1,
    - c) 10 ha in variant IDFww, and
    - d) 45 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
    - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,

- iii) OGMA's  $\geq 100$  ha in size where the proposed development affects the OGMA by  $< 10\%$ .
  - iv) Construction of  $\leq 500$ m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.
  - v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by  $< 0.5$  ha.
- (4) Intrusions, other than those specified in (3) above, that affect an OGMA by less than 0.5 hectare in total.

4. Exemption 3(3) above does not apply to the following OGMA's: #41, 47.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock  $> 10$  ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any existing moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Spuzzum Landscape Unit.**

<b><u>BEC Subzone</u></b>	<b><u>% Wildlife Tree Retention</u></b>
CWH ds (Coastal Western Hemlock, dry subarctic)	10
CWH ms (Coastal Western Hemlock, moist subarctic)	10
IDF ww (Interior Douglas-fir, wet warm subzone)	6
MH mm (Mountain Hemlock, moist maritime)	4



File: ORCS 17580-30/TRET

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**TRETHEWAY LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Tretheway Landscape Unit, an area located near Harrison Lake, effective June 24<sup>th</sup>, 2005.

The boundaries of the Tretheway Landscape Unit are shown on the Tretheway Landscape Unit map dated 2 December 2004 accompanying this Order.

In addition, I hereby establish Landscape Unit Objectives for the Tretheway Landscape Unit, as attached to this Order, effective June 24<sup>th</sup>, 2005.

(Original signed by)

June 7<sup>th</sup>, 2005

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives - Tretheway Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are Landscape Unit Objectives for the Tretheway Landscape Unit.

### Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Tretheway Landscape Unit map dated 2 December 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
  2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
    - i) 10 ha in variant CWHds1,
    - ii) 15 ha in variant CWHms1, and
    - iii) 10 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
  - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
    - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
  - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
  - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs # 13, 23, 33, 47, 49, 59, 69, 75, and the old mapped portion of all OGMAs in the CWHds1.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

## **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Tretheway Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subarctic)	10
CWH ms (Coastal Western Hemlock, moist subarctic)	6
MH mm (Mountain Hemlock, moist maritime)	2



File: ORCS 17580-30/WHAR

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**WEST HARRISON LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the West Harrison Landscape Unit, an area located near Harrison Lake and Harrison Hot Springs, effective June 24<sup>th</sup>, 2005.

The boundaries of the West Harrison Landscape Unit are shown on the West Harrison Landscape Unit map dated 2 December 2004 accompanying this Order.

In addition, I hereby establish Landscape Unit Objectives for the West Harrison Landscape Unit, as attached to this Order, effective June 24<sup>th</sup>, 2005.

(Original signed by)

June 7<sup>th</sup>, 2005

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives – West Harrison Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are Landscape Unit Objectives for the West Harrison Landscape Unit.

### Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached West Harrison Landscape Unit map dated 2 December 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
  2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
    - i) 50 ha in variant CWHdm,
    - ii) 15 ha in variant CWHvm2, and
    - iii) 10 ha in variant MHmm1,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
  - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
    - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
    - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
    - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
    - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
  - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
  - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #3, 10, 19, 37, 99, 101, 124 and the mapped old forest portion of all OGMAs in CWHdm.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
- (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
- (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

Note add 145, 54, 126 road construction.

4. Permissible Activities for Safety Purposes:

- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
- (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

**Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the West Harrison Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH dm (Coastal Western Hemlock, dry maritime)	14
CWH vm (Coastal Western Hemlock, very wet maritime)	14
MH mm (Mountain Hemlock, moist maritime)	13



File: ORCS 17580-30/Yale

**ORDER TO ESTABLISH  
A LANDSCAPE UNIT AND OBJECTIVES**

**YALE LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the Yale Landscape Unit, an area located north of Hope, BC in the Chilliwack Forest District, effective April 14, 2004.

The boundaries of the Yale Landscape Unit are shown on the Yale Landscape Unit map, dated March 10, 2004, attached to this Order.

In addition, I hereby establish objectives for the Yale Landscape Unit, as attached to this Order, effective April 14, 2004.

(Original signed by)

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

## Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

## Legal Objectives - Yale Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the Yale Landscape Unit.

### **Objective 1**

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Yale Landscape Unit map dated March 10, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
  - i) 30 ha in variant CWHds1,
  - ii) 80 ha in variant CWHms1, and
  - iii) 60 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
  - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
  - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
  - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
  - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #25, 26, 38.
3. Permissible Activities:
  - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

- (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
  - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
  - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:
- (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
  - (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

### **Objective 2**

Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree patches to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTPs must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention.
- (3) No timber harvesting, including single tree selection, is to occur within WTPs for at least one rotation, except as noted in (4) below.
- (4) Salvage of windthrown timber and harvesting of remaining standing stems is only permitted within WTPs where catastrophic windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, replacement WTP of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTPs must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

**Table A. Wildlife Tree Retention by BEC subzone in the Yale Landscape Unit.**

<b>BEC Subzone</b>	<b>% Wildlife Tree Retention</b>
CWH ds (Coastal Western Hemlock, dry subaritime)	5
CWH ms (Coastal Western Hemlock, moist subaritime)	8
MH mm (Mountain Hemlock, moist maritime)	5



File: ORCS 17580-30/Yale

**ORDER VARYING  
A LANDSCAPE UNIT OBJECTIVE  
YALE LANDSCAPE UNIT**

Pursuant to Section 4 (2) of the *Forest Practices Code of British Columbia Act*, I hereby vary the Yale Landscape Unit objective 1, effective February 3, 2005, as attached to this order. The Yale landscape unit is an area located north of Hope, B.C. in the Chilliwack Forest District.

The boundaries of the Yale Landscape Unit and the variance to old growth management areas (OGMAs) are shown on the Yale Landscape Unit map dated October 1, 2004 attached to this Order.

(Original signed by)

February 3, 2005

\_\_\_\_\_  
**Regional Director, Coast Region,  
Ministry of Sustainable Resource Management**

\_\_\_\_\_  
**Date**

**Yale Landscape Unit – Legal Objectives  
VARIANCE**

Pursuant to section 4(2) of the *Forest Practices Code of British Columbia Act*, Objective 1 of the Legal Objectives – Yale Landscape Unit is varied as follows:

Maintain or recruit old growth forests in established old growth management areas (OGMAS), as shown on the revised and attached Yale Landscape Unit map dated October 1, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 of the original Legal objectives Order.

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## **Appendix 2**

**Species at Risk and Ungulate Species Notices**



**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE WINTER SURVIVAL OF UNGULATE  
SPECIES IN THE FRASER TIMBER SUPPLY AREA**

This notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9 (3) of the *Woodlot License Planning and Practices Regulation* (B.C. Reg. 21/04).

The following notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the winter survival of the ungulate species outlined in Schedule 1.

This notice applies as specified within the Fraser Timber Supply Area.

WLAP staff will provide assistance to all licensees in the Fraser TSA when these licensees develop results and strategies for FSP. WLAP will help to spatially locate habitat suitable for the winter survival of ungulate species to ensure that results or strategies are biologically appropriate and wherever possible, overlap with existing and proposed Old Growth Management Areas, riparian reserves and other areas that have been removed from timber harvesting, and areas subject to other operational constraints (example: terrain challenges, SPOW areas, scenic areas with VQO).

**Schedule 1**

**Fraser Timber Supply Area**

**I) Ungulate Species:**

Mountain Goat (*Oreamnos americanus*)

**Amount:**

1500 ha of timber harvesting landbase.

**Distribution:**

The amount of habitat referenced above must be distributed to provide:

1. Individual winter range areas for Mountain Goats in the Fraser TSA which exhibit Coastal, Interior and/or Transitional behavioural ecotypes. Individual winter range areas must be > 50 ha in size.
2. Areas exhibiting current use by mountain goats during critical winter conditions (generally December through February).

**Attributes:**

1. Escape terrain: aspects ranging from east, through south, to west consisting of rock outcrops, cliffs or bluff complexes; slopes  $>26.5^{\circ}$  (50%) and  $<51.3^{\circ}$  (125%); and elevations ranging from 200m to 2500m.
2. Accessible and abundant forage in close proximity to escape terrain: areas of low snow-loading that allow goats to access available forage: forest canopies with high snow interception characteristics, and/or warm, southerly aspects with high melt and snow-shedding characteristics; areas that provide high quality forage (i.e., rooted forage and arboreal litterfall, including lichens).
3. Critical stand structure features: mature and old growth (ideally old growth [ $>250$  years] but can include stands  $>100$  years of age) stands, typically Douglas-fir (*Pseudotsuga menziesii*) dominated, with large, well-developed crowns. Stands can be distributed as: larger forested patches surrounding escape terrain; smaller scattered patches within and adjacent escape terrain; and as small groups of trees located on bluff complexes and along cliffs within the escape terrain.
4. Snow interception and thermal cover: Douglas-fir (*Pseudotsuga menziesii*) dominated coniferous stands at least 12 m in height with large, well-developed crowns and a canopy closure exceeding 70%.

## **II) Ungulate Species:**

Black-tailed & Mule Deer (*Odocoileus hemionus sp.*)

### **Amount:**

3500 ha of timber harvesting landbase.

### **Distribution:**

The amount of habitat referenced above must be distributed to provide:

1. Individual winter range areas for Black-tailed & Mule Deer with a minimum size of 50 ha, distributed across the Timber Supply Area. In drainages where, due to past forest harvest, no stands larger than 50 ha which contain the attributes listed below currently exist, selection of winter range areas greater than 20ha can be considered as adequate; and
2. Areas exhibiting use by deer during critical winter conditions (generally December through February).

### **Attributes:**

1. Critical stand structure features (including snow interception and thermal cover): mature and old growth (ideally old growth [ $>250$  years] but can include stands  $>100$  years of age) Douglas-fir (*Pseudotsuga menziesii*) dominated stands with large, well-developed crowns that provide canopy closures ranging from 65-90%, and preferably greater than 12 m in height.
2. Topographic features: south east, through south, to west aspects; moderate to steep slopes (40-100%); lower to moderate elevations ( $>200$ m and  $<1,000$  m); minimal shading from adjacent mountains; and presence of open rock bluffs with southerly

aspects. Locate winter ranges in the moderate and deep snow zones. Thermal cover requirements in the low and the very deep snow zones.

3. Important winter forage species include: Douglas-fir (*Pseudotsuga menziesii*) (primarily from litterfall); Salal (*Gaultheria shallon*); saskatoon (*Amelanchier alnifolia*); Douglas maple (*Acer glabrum*); willow (*Salix* spp); falsebox (*Pachistima myrsinites*); rose (*Rosa* spp.); snowbush (*Ceanothus velutinus*); red-stemmed ceanothus (*Ceanothus sanguineus*); red-osier dogwood (*Cornus sericea*); high-bush cranberry (*Viburnum edule*); huckleberry (*Vaccinium* spp.); beaked hazelnut (*Corylus cornuta*); thimbleberry (*Rubus parviflorus*); Oregon-grape (*Mahonia aquifolium* spp.); raspberry (*Rubus* spp.); and Arboreal lichens, specifically *Alectoria* spp., *Bryoria* spp., and *Usnea* spp..



**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN  
THE CHILLIWACK FOREST DISTRICT**

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas are not included in the indicators of amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Chilliwack Forest District.

WLAP staff will provide assistance to all licensees in the Fraser TSA when these licensees develop results and strategies for FSP. WLAP will help to spatially locate areas with suitable wildlife habitat for species at risk to ensure that results or strategies are biologically appropriate and wherever possible, overlap with existing and proposed Old Growth Management Areas, riparian reserves and other areas that have been removed from timber harvesting, and areas subject to other operational constraints (example: terrain challenges, SPOW areas, scenic areas with VQO).

Schedule 1

**1) Coastal Giant Salamander (*Dicamptodon tenebrosus*)**

***Amount:***

1. 850 ha not exceeding an impact to the mature timber harvesting landbase of 550 ha.

***Distribution:***

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species: Coastal  
Giant  
Salamander**

Attribute	Characteristics
Size	Generally between 20 - 100 ha in size. Areas managed for this species should include a 30 m core area and a 20 m buffer area. This should be maintained on both sides of all occupied stream reaches to encompass known observations and suitable aquatic habitat.
Aquatic habitat Characteristics	Aquatic habitats are characterised by clear, cool, fast-flowing and well-oxygenated streams with step-pool morphology and sufficient hiding cover (i.e., rocks, debris, and overhanging stream banks). Additionally streams by be further characterised by year round flow, non-fish bearing (S4-S6), small size (<5m width), intermediate gradient, stable channel beds and forest canopy cover.
Terrestrial habitat Characteristics	Moist forested areas with ample hiding cover in close proximity (10m) to streams. Most common refuge locations (for adults) are within or under CWD (in advanced stages of decay (Decay Class 3-5), underground and under rocks. Generally within mature or old forest close to headwaters and free of fish.
Stream Classification	Generally found in non-fish bearing streams (S4-S6). Tadpole abundance decreases with increasing width and increasing depth.
Elevation	Found from sea level to 2160 m.

## 2) Grizzly Bear (*Ursus arctos*)

**Amount:**

1. An amount not exceeding an impact to the mature timber harvesting landbase of 445 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

**Attributes:**

1) Cascades Grizzly Bear Population Unit

A. Important Grizzly Bear Habitat Types and their Season of Use in the North Cascades Grizzly Bear Population Unit.

Habitat Types	Season of Use		
	Spring *	Summer	Fall **
Riparian areas, including wetlands (see Table below)	X	X	X
Avalanche tracks and run out zones	X	X	X
<i>Hedysarum</i> and glacier lily complexes	X	X	
Sub-alpine parkland meadows		X	X
Berry producing sites (see Table below)		X	X

\***Spring** refers to the period after bears emerge from their dens - late March through April until spring habitats are no longer used – usually the end of June.

\*\***Fall** refers to the period when berries become abundant - often late July/early August through to November.

B. Attributes of Riparian Habitats in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	Site Series
CWHdm	07, 12, 14, 15
CWHds1	07, 12
CWHms1	06, 11
CWHvm2	07, 08, 11
CWHxm1	07, 12, 14, 15
ESSFdc2	08
ESSFmw	08
ESSFxc	08
IDFdk1	06
IDFdk2	06, 07
IDFww	06, 07
IDFxb2	08
MHmm2	06, 07, 09
MSdm2	07
MSxk	09
PPxb2	07

C. Attributes of High and Moderate Berry (principally *Vaccinium*) Producing Site Series in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	High Berry Productivity Site Series	Moderate Berry Productivity Site Series
CWHdm	12	
CWHms1	02, 01, 05, 06, 11	03
CWHvm2	03, 01, 05, 06, 07, 09, 10, 11	02, 04
ESSFdc2		05
ESSFmw	04, 05	01, 02, 06, 07, 08
MHmm2	02, 01, 04, 05, 06, 07, 08	03, 09

2) Stein-Nahatlatch Grizzly Bear Population Unit

**Species:  
Grizzly Bear**

Attribute	Characteristics
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.
Critical patch habitats	Critical patch habitats include, estuaries, rich non-forested fens, the edges of forested and non-forested bogs, herb-dominated patches on avalanche chutes with adjacent forest (particularly south-facing ones), herb-dominated subalpine parkland meadows, skunk cabbage swamps, floodplain ecosystems, white bark pine forage areas, and areas where bears fish for spawning salmon. Den cavities and surrounding stands are also considered critical. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirement vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

### 3) Pacific Water Shrew (*Sorex bendirii*)

**Amount:**

1. 50 ha not exceeding an impact to the mature timber harvesting landbase of 25 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size and spatial distribution identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:**  
**Pacific Water**  
**Shrew**

Attribute	Characteristics
Size	Generally between 5 and 45 ha in size depending on area of suitable habitat. Area should extend entire length of the stream or wetland and include a 30 m core with a 45 m management zone on each side of the stream or around wetland complex.
Habitat Features	Moist, coastal forests that border streams and skunk-cabbage marshes with an abundance of shrubs and coarse woody debris and extensive canopy closure. Maintain 70% basal area within the management zone. Partial harvesting within the management zone will promote microhabitat and structural elements such as multi-layered canopies, wildlife trees and coarse woody debris. The area should include suitable riparian and terrestrial habitat; wetlands, streams or other suitable habitat should reside within 1 km whenever possible.
Structural Stage	4 (pole/sapling), 5 (young forest), 6 (mature forest), 7 (old forest).
Elevation	Up to 850 m (generally below 850m).

**4) Tall Bugbane (*Actaea elata*)**

**Amount:**

1. 200 ha not exceeding an impact to the mature timber harvesting landbase of 75 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:**  
**Tall Bugbane**

Attribute	Characteristics
Size	Typically between 20 and 40 ha but depends on site-specific conditions (i.e., size of population and area covered by population). The area should include a core area (defined by the perimeter of the population plus a 30-50m band around the population) plus a management zone (typically 150-200 m - should be large enough to preserve the ambient conditions and be windfirm).

Tree Species	Tree species that occur with tall bugbane include big-leaf maple, Douglas maple and vine maple.
Habitat Features	Shady, moist, mature (70-150 yrs) western red cedar forest commonly in Thuja Plicata - Polystichum munitum - Achlys triphylla communities. It is almost always associated with big-leaf maple. The deciduous component of mixed forest is important in maintaining optimal light conditions. Known to occur on 15-35 degree slopes with north, southwest and south aspects.
Structural Stage	1-3: non-vegetated to small shrub (<15yrs), 4-6: pole/sapling to mature forest (70-150yrs).
Elevation	300 - 1300 m.

## 5) Coastal Tailed Frog (*Ascaphus truei*)

### Amount:

1. 60 ha not exceeding an impact to the mature timber harvesting landbase of 30 ha.

### Distribution:

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size and spatial distribution identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within occupied streams in the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

### Attributes:

#### Species: Coastal Tailed Frog

Attribute	Characteristics
Size	Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (i.e., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20m management zone on both sides of occupied stream reaches.
Habitat Attributes	Tailed frog aquatic habitats are generally characterised by year round flow, non fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% of forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g., coarse wood debris,) water quality and temperature (5 to 18 degrees), and naturally dispersed water flows.
Elevation	From sea level to 2140 m.

## 6) Spotted Owl (*Strix occidentalis*)

***Amount:***

An amount of area consistent with the area contained within Special Resource Management Zone and Matrix Activity Centre boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*.

***Distribution:***

The amount referenced above must be distributed consistent with Special Resource Management Zones and Matrix Activity Centres boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*.

***Attributes:***

Attributes consistent with those identified for Long Term Activity Centres (LTACs) in the 1999 *Spotted Owl Management Plan – Resource Management Plans* and attributes consistent with those identified for Matrix Activity Centres in the 1997 *Spotted Owl Management Plan* for the Chilliwack Forest District.



August 3, 2007

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN  
THE CHILLIWACK FOREST DISTRICT**

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas are not included in the indicators of amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Chilliwack Forest District.

MOE staff will provide assistance to all licensees in the Fraser TSA when these licensees develop results and strategies for FSP. MOE will help to spatially locate areas with suitable wildlife habitat for species at risk to ensure that results or strategies are biologically appropriate and wherever possible, overlap with existing and proposed Old Growth Management Areas, riparian reserves and other areas that have been removed from timber harvesting, and areas subject to other operational constraints (example: terrain challenges, SPOW areas, scenic areas with VQO).

This Notice replaces the Notice issued for the Chilliwack Forest District on December 30, 2004.

**Schedule 1**

**1) Coastal Giant Salamander (*Dicamptodon tenebrosus*)**

***Amount:***

1. 850 ha not exceeding an impact to the mature timber harvesting landbase of 550 ha.

***Distribution:***

1. The amount of habitat referenced above must be distributed to provide:

- areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Coastal Giant Salamander in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:**  
**Coastal Giant Salamander**

Attribute	Characteristics
Size	Generally between 20 - 100 ha in size. Areas managed for this species should include a 30 m core area and a 20 m buffer area. This should be maintained on both sides of all occupied stream reaches to encompass known observations and suitable aquatic habitat.
Aquatic habitat Characteristics	Aquatic habitats are characterised by clear, cool, fast-flowing and well-oxygenated streams with step-pool morphology and sufficient hiding cover (i.e., rocks, debris, and overhanging stream banks). Additionally streams be further characterised by year round flow, non-fish bearing (S4-S6), small size (<5m width), intermediate gradient, stable channel beds and forest canopy cover.
Terrestrial habitat Characteristics	Moist forested areas with ample hiding cover in close proximity (10m) to streams. Most common refuge locations (for adults) are within or under CWD (in advanced stages of decay (Decay Class 3-5), underground and under rocks. Generally within mature or old forest close to headwaters and free of fish.
Stream Classification	Generally found in non-fish bearing streams (S4-S6). Tadpole abundance decreases with increasing width and increasing depth.
Elevation	Found from sea level to 2160 m.

## 2) Grizzly Bear (*Ursus arctos*)

**Amount:**

1. An amount not exceeding an impact to the mature timber harvesting landbase of 387 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

**Attributes:**

1) Cascades Grizzly Bear Population Unit

A. Important Grizzly Bear Habitat Types and their Season of Use in the North Cascades Grizzly Bear Population Unit.

Habitat Types	Season of Use		
	Spring *	Summer	Fall **
Riparian areas, including wetlands (see Table below)	X	X	X
Avalanche tracks and run out zones	X	X	X
<i>Hedysarum</i> and glacier lily complexes	X	X	
Sub-alpine parkland meadows		X	X
Berry producing sites (see Table below)		X	X

\***Spring** refers to the period after bears emerge from their dens - late March through April until spring habitats are no longer used – usually the end of June.

\*\***Fall** refers to the period when berries become abundant - often late July/early August through to November.

B. Attributes of Riparian Habitats in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	Site Series
CWHdm	07, 12, 14, 15
CWHds1	07, 12
CWHms1	06, 11
CWHvm2	07, 08, 11
CWHxm1	07, 12, 14, 15
ESSFdc2	08
ESSFmw	08
ESSFxc	08
IDFdk1	06
IDFdk2	06, 07
IDFww	06, 07
IDFxb2	08
MHmm2	06, 07, 09
MSdm2	07
MSxk	09
PPxb2	07

C. Attributes of High and Moderate Berry (principally *Vaccinium*) Producing Site Series in the North Cascades Grizzly Bear Population Unit.

Biogeoclimatic Subzone Variants	High Berry Productivity Site Series	Moderate Berry Productivity Site Series
CWHdm	12	
CWHms1	02, 01, 05, 06, 11	03
CWHvm2	03, 01, 05, 06, 07, 09, 10, 11	02, 04
ESSFdc2		05
ESSFmw	04, 05	01, 02, 06, 07, 08
MHmm2	02, 01, 04, 05, 06, 07, 08	03, 09

## 2) Stein-Nahatlatch Grizzly Bear Population Unit

**Species:**  
**Grizzly Bear**

Attribute	Characteristics
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.
Critical patch habitats	Critical patch habitats include, estuaries, rich non-forested fens, the edges of forested and non-forested bogs, herb-dominated patches on avalanche chutes with adjacent forest (particularly south-facing ones), herb-dominated subalpine parkland meadows, skunk cabbage swamps, floodplain ecosystems, white bark pine forage areas, and areas where bears fish for spawning salmon. Den cavities and surrounding stands are also considered critical. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirement vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

## 3) Pacific Water Shrew (*Sorex bendirii*)

### **Amount:**

1. 50 ha not exceeding an impact to the mature timber harvesting landbase of 25 ha.

### **Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size and spatial distribution identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Pacific Water Shrew in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:**  
**Pacific Water Shrew**

Attribute	Characteristics
Size	Generally between 5 and 45 ha in size depending on area of suitable habitat. Area should extend entire length of the stream or wetland and include a 30 m core with a 45 m management zone on each side of the stream or around wetland complex.
Habitat Features	Moist, coastal forests that border streams and skunk-cabbage marshes with an abundance of shrubs and coarse woody debris and extensive canopy closure. Maintain 70% basal area within the management zone. Partial harvesting within the management zone will promote microhabitat and structural elements such as multi-layered canopies, wildlife trees and coarse woody debris. The area should include suitable riparian and terrestrial habitat; wetlands, streams or other suitable habitat should reside within 1 km whenever possible.
Structural Stage	4 (pole/sapling), 5 (young forest), 6 (mature forest), 7 (old forest).
Elevation	Up to 850 m (generally below 850m).

#### 4) Tall Bugbane (*Actaea elata*)

**Amount:**

1. 200 ha not exceeding an impact to the mature timber harvesting landbase of 75 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Tall Bugbane in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:**  
**Tall Bugbane**

Attribute	Characteristics
Size	Typically between 20 and 40 ha but depends on site-specific conditions (i.e., size of population and area covered by population). The area should include a core area (defined by the perimeter of the population plus a 30-50m band around the population) plus a management zone (typically 150-200 m - should be large enough to preserve the ambient conditions and be windfirm).

Tree Species	Tree species that occur with tall bugbane include big-leaf maple, Douglas maple and vine maple.
Habitat Features	Shady, moist, mature (70-150 yrs) western red cedar forest commonly in Thuja Plicata - Polystichum munitum - Achlys triphylla communities. It is almost always associated with big-leaf maple. The deciduous component of mixed forest is important in maintaining optimal light conditions. Known to occur on 15-35 degree slopes with north, southwest and south aspects.
Structural Stage	1-3: non-vegetated to small shrub (<15yrs), 4-6: pole/sapling to mature forest (70-150yrs).
Elevation	300 - 1300 m.

## 5) Coastal Tailed Frog (*Ascaphus truei*)

### Amount:

1. 60 ha not exceeding an impact to the mature timber harvesting landbase of 30 ha.

### Distribution:

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable habitat of the size and spatial distribution identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within occupied streams in the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

### Attributes:

#### Species: Coastal Tailed Frog

Attribute	Characteristics
Size	Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (i.e., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20m management zone on both sides of occupied stream reaches.
Habitat Attributes	Tailed frog aquatic habitats are generally characterised by year round flow, non fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% of forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g., coarse wood debris,) water quality and temperature (5 to 18 degrees), and naturally dispersed water flows.
Elevation	From sea level to 2140 m.

## 6) Spotted Owl (*Strix occidentalis*)

### ***Amount:***

An amount of area consistent with the area contained within Special Resource Management Zone and Matrix Activity Centre boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*, with the exception of the area noted below:

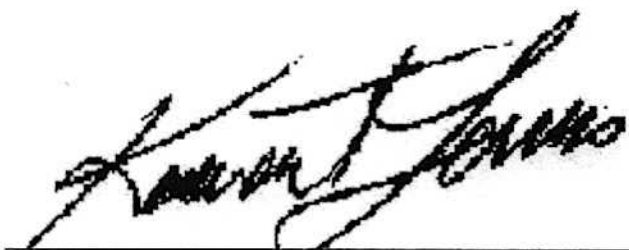
- As of September 30, 2007 this Notice will not apply to the portion of LTAC 12B, within SRMZ 12, found west of Big Silver River, as shown in the map *Big Silver Cattermole Tincup LTAC Replacement Area – Contributing Forest Land Base* (June 8, 2007). The Notice will continue to apply to the portion of LTAC 12B east of Big Silver River
- The area removed from LTAC 12B is to be exchanged for the protection of Spotted Owls and their habitat in the Tincup Creek area of upper Nahatlatch River. The amount distribution and attributes (to be defined by September 30, 2007) will be consistent with the provisions of the 1997 SOMP and will be established to result in a no-net loss of THLB and Spotted Owl habitat.

### ***Distribution:***

The amount referenced above must be distributed consistent with Special Resource Management Zones and Matrix Activity Centres boundaries in the Chilliwack Forest District as identified in the 1997 *Spotted Owl Management Plan*, with the above noted exception and addition.

### ***Attributes:***

Attributes consistent with those identified for Long Term Activity Centres (LTACs) in the 1999 *Spotted Owl Management Plan – Resource Management Plans* and attributes consistent with those identified for Matrix Activity Centres in the 1997 *Spotted Owl Management Plan* for the Chilliwack Forest District, with the above noted exemption and addition.



Signed this 3<sup>rd</sup> day of August, 2007  
Kaaren Lewis, Director Ecosystems Branch  
Ministry of Environment

August 18, 2009

**NOTICE- INDICATORS OF THE AMOUNT, DISTRIBUTION AND  
ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE  
SURVIVAL OF SPOTTED OWL IN THE CHILLIWACK FOREST  
DISTRICT**

This notice is given consistent with the provisions of section 7(2) of the *Forest Planning and Practices Regulation* (BC Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (BC Reg. 21/04)

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of Spotted Owl as outlined in Schedule 1.

Approved Wildlife Habitat Areas for Spotted Owl are not included in the indicators of amount, distribution and attributes for Spotted Owls. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objectives set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Chilliwack Forest District.

This Notice replaces the amount, distribution and attributes provided for Spotted Owl in the Notice for the Chilliwack Forest District dated August 3, 2007. The August 3, 2007 Notice remains in effect for the other species at risk.

Schedule 1

**1) Spotted Owl (*Strix occidentalis*)**

***Amount:***

An amount of area consistent with the area spatially defined as Long Term Owl Habitat (LTOH) Areas and Managed Forest Habitat Areas (MFHA) in the Chilliwack Forest District as identified on the *Chilliwack Forest District Spotted Owl Management Plan Map and the Spotted Owl LTOH and MFHA Area Summary Table* – dated May 22, 2009.


***Distribution:***

The amount referenced above must be distributed consistent with Long Term Owl Habitat Areas and Managed Forest Habitat Areas as identified in the *Chilliwack Forest District Spotted Owl Management Plan Map* –dated May 22, 2009.

**Attributes:**

Attributes consistent with those contained in the *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, with the exception of:

1. blocks: Sowaqua Block 1, Depot Creek 101 and Cantelon Creek 8710,  
where the attributes will be consistent with the *1997 Spotted Owl Management Plan* and the *1999 Spotted Owl Management Plan—Resource Management Plans*.
2. blocks: Ford Mountain 2003, 2004, 2005, 2006,  
where the attributes will be consistent with either:
  - a. the *1997 Spotted Owl Management Plan* and the *1999 Spotted Owl Management Plan—Resource Management Plans*; or
  - b. *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



Signed this 18<sup>th</sup> day of August, 2009

*for* Kaaren Lewis, Director Ecosystems Branch  
Ministry of Environment

October 2010

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF GRIZZLY BEAR IN  
THE CHILLIWACK FOREST DISTRICT**  
**Amendment**

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas for Grizzly Bear are not included in the indicators of amount, distribution and attributes for Grizzly Bear. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objectives set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas

This Notice applies to the Chilliwack Forest District.

This Notice replaces the amount, distribution and attributes provided for Grizzly Bear in the Notice for the Chilliwack Forest District dated August 3, 2007. The August 3, 2007 Notice remains in effect for the other species at risk.

**Schedule 1**

**1) Grizzly Bear (*Ursus arctos*)**

***Amount:***

1. 4928 ha not exceeding an impact to the mature timber harvesting landbase of 234 ha.

***Distribution:***

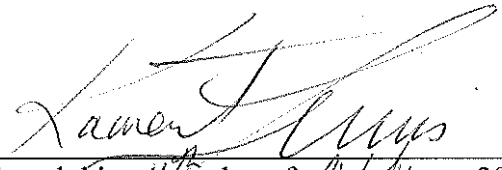
1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

**Attributes:**

**Stein-Nahatlatch Grizzly Bear Population Unit**

**Species:  
Grizzly Bear**

Attribute	Characteristics
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.
Critical patch habitats	Critical patch habitats include, estuaries, rich non-forested fens, the edges of forested and non-forested bogs, herb-dominated patches on avalanche chutes with adjacent forest (particularly south-facing ones), herb-dominated subalpine parkland meadows, skunk cabbage swamps, floodplain ecosystems, white bark pine forage areas, and areas where bears fish for spawning salmon. Den cavities and surrounding stands are also considered critical. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirement vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

  
Signed this 4<sup>th</sup> day of October, 2010

Kaaren Lewis, Director Ecosystems Protection and Sustainability Branch  
Ministry of Environment



*PART OF THE*



# **Appendix 2a**

**Wildlife: Mountain Goat Order**



**ORDER – UNGULATE WINTER RANGE #U-2-001**  
**Fraser TSA Mountain Goat**

This order is given under the authority of sections 9(1), 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004).

The Deputy Minister of Environment orders that:

1. the ungulate winter range shown on the map set out in the attached Schedule A (#U-2-001) is established;
2. the ungulate winter range in the attached Schedule A is established for mountain goat (*Oreamnos americanus*);
3. the general wildlife measures outlined in Schedule 1 are established for the ungulate winter ranges in the attached Schedule A;
4. general wildlife measure 5 outlined in Schedule 1 is established and applies to a 500m specified area surrounding each ungulate winter range;
5. where there is any discrepancy between the ungulate winter range boundaries as shown in the attached Schedule A and the GIS file *tuwra\_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the ungulate winter range is what establishes the boundary;
6. pursuant to section 7(3) 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 the winter survival of mountain goat in the Fraser TSA;
7. for the purposes of section 2 (3)(a) of the *Government Actions Regulation*, these General Wildlife Measures apply to minor tenures; and
8. the general wildlife measures 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*, the *Mines Act*, the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Geothermal Resources Act*.

## **Schedule 1 – General Wildlife Measures**

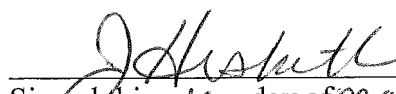
In this schedule:

“Primary forest activity” is defined as in the *Forest Planning and Practices Regulation*.

1. Primary forest activities, including salvage and harvest of botanical forest products, will result in the retention of all forest or vegetative cover within the mountain goat winter range.
2. For the purposes of general wildlife measure 1, exemptions would only normally be considered if they result in enhancing quality of the winter range habitat as determined by Ministry of Environment; or for road construction where there is no other practicable option. An exemption is not required for the following:
  - a) road maintenance or deactivation on existing roads within the ungulate winter range;
  - b) tailholds/guyline anchors in the ungulate winter range associated with landings/cutblocks adjacent to the ungulate winter range boundary;
  - c) to meet worker safety concerns on existing or authorized roads within the ungulate winter range, or worker safety concerns along cutblock boundaries adjacent to or authorized within the ungulate winter range (e.g. danger tree felling); or
  - d) the list of exempt Category A cut-blocks attached in Appendix 1

Any trees felled for general wildlife measure 2 a), b), or c) will be left on site to function as coarse woody debris, unless the tree falls onto the road or landing or outside the ungulate winter range boundary. The portion that lies on the road or landing or outside the ungulate winter range boundary can be harvested.

3. Primary forest activities will not result in the use of pesticides within the ungulate winter range, except for spot treatment within 1 metre around individual conifer crop trees on existing or exempt cutblocks that are not yet free to grow. The use of *Bacillus thuringiensis* for the control of western spruce budworm and beetle pheromones for the control of bark beetles are exempted.
4. Any primary forest activities (except ground based tree planting) occurring within ungulate winter range must be confined to a period extending from May 1 to October 31 of a calendar year to prevent disturbance to mountain goats, unless exempted.
5. Helicopter logging that occurs within 500 meters horizontal distance of a mountain goat winter range will not result in a material adverse disturbance to mountain goats. To achieve this, helicopter logging operations within 500 meters horizontal distance of an established mountain goat winter range will take place from May 1 to October 31 of a calendar year, unless exempted.

  
Signed this 10 day of march, 2008  
Joan Hesketh, Deputy Minister  
Ministry of Environment

## Appendix 1:

The following information is intended to provide background information and support to the legal order establishing UWR #U-2-001. This appendix is not part of the legal order establishing UWR #U-2-001.

1. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. In instances where it is not practicable to comply with these measures, a person proposing to conduct forestry activities should consider seeking an exemption from the requirements to comply with the applicable General Wildlife Measures.

An exemption application should be submitted to the Ministry of Environment's Regional Manager at the Lower Mainland Regional office – located at 10470 152 Street Surrey, BC V3R 0Y3 (a template for exemption requests is available from the Regional Manager Ministry of Environment). The exemption application must include a rationale describing the nature of the problem and options to integrate winter range conservation with proposed forest 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 for timing window exemptions will be processed in 5 to 7 working days, all other exemptions will be handled within 20 working days of arrival at the MOE Regional office.

2. The following Category A approved cut-blocks are exempt from general wildlife measure 1 until they are declared free to grow. No further expansion or relocation of the existing block boundary into the goat winter range from that described below is permitted:
  - Seabird block BS6610 (1.7 ha overlap with BS8; heli-log only in GWR)
  - Seabird block BS6620 (5.0 ha overlap with BS8; heli-log only in GWR)
  - Seabird blocks SK5320 (2.3 ha overlap with SH9)
  - Cattermole block CO1020 (0.2 ha overlap with CQ12)
  - Teal Cedar block 358 (10.8ha overlap with PI1)
  - Tamihi block 8710 (2.6 ha overlap with SH2)
  - Chawathil block BS6626 (6.1 ha overlap with BS8; heli-log only in GWR)
  - BC Timber Sales block A54092-A (15.5 ha overlap with ST1)
  - BC Timber Sales A54092-F (5.0 ha overlap with ST1)
  - BC Timber Sales block WN125 (6.3 ha overlap with ST5)
  - Hope Comm. Forest block SK0020 (1.2 ha overlap with SH6; overlap into WTP reserve)
  - A&A Trading block SK5371 (12.4 ha overlap with SH9)
3. With respect to general wildlife measure 5, exemptions for operating within the restricted timing window may be granted on a biweekly, weekly, or daily basis, dependent on time of year, weather conditions and presence of goats. Further:
  - It should be recognized that this 500 m setback is a risk-tolerant approach based on socio-economic considerations in the Fraser TSA. Existing literature and professional opinion indicates that 1500 m is a more appropriate setback. Ministry of Environment

will monitor to determine impacts to goats; if impacts are substantial then the Delegated Decision Maker will revisit the 500 m setback.

- Exemption applications for activities involving significant or sustained disturbance such as helicopter yarding, road construction with heavy equipment, drilling or blasting will be carefully reviewed, and if approved, monitored more closely since these activities are most likely to result in material adverse disturbance to goats.
  - Each exemption request will be evaluated on its own merit according to the historical intensity of mountain goat use of an area, type of work proposed, current weather conditions and short and long term weather forecasts.
  - It is the proponent's responsibility to conduct a brief aerial survey using a qualified ungulate biologist to confirm that goats are not present. Ministry of Environment regional staff may be able to participate in surveys. The survey should be done near the beginning/end of the normal timing window, and if any sign of mountain goat activity (tracks or animals) is noted within 500 metres of the proposed operational area, proponent's should consider whether their planned activity will result in a material adverse disturbance to goats; and if so the exemption request should not be submitted. Please note that helicopter flights in themselves can cause material adverse disturbance to wintering goats. Repeated overflights of occupied goat winter range habitats are not to occur.
  - When an exemption has been granted, work may continue when minor snowfalls occur (i.e. less than 8 hours duration and less than 0.3 m depth). However, when snowfalls exceed this proponent's should anticipate that continued activity will result in material adverse disturbance to goats. For this reason, work areas are to be kept small so operations can be stopped on short notice.
4. Exemptions for general wildlife measure 4 and 5 will normally only be considered in early or late winter since longer extensions are most likely to result in material adverse disturbance to mountain goats.
  5. For purposes of general wildlife measure 2, "enhancement" means improvement of second growth young forest stands to increase future snow interception cover (e.g. thinning dense young forested stands).



*PART OF THE*



## **Appendix 2b**

**Wildlife: Black-tailed and Mule Deer Order**

**ORDER – UNGULATE WINTER RANGE U-2-006**

This order is given under the authority of sections 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004).

1. The Deputy Minister of Environment, being satisfied that
  - i. the following area contains habitat that is necessary to meet the winter habitat requirements for Mule Deer (*Odocoileus hemionus hemionus*) and Columbian Black-tailed Deer (*O. h. columbianus*); 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 (U-2-006) and contained in the ungulate winter range (UWR) spatial layer stored in the Land and Resource Data Warehouse (*tuwra\_bc*) are established as ungulate winter range U-2-006 for Mule Deer and Columbian Black-tailed Deer. The centre point of the line on the attached Schedule A is what establishes the UWR boundary; and
  - b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the UWR spatial layer stored in the Land and Resource Data Warehouse (*tuwra\_bc*), the areas as detailed in the UWR spatial layer will take precedent.
2. The Deputy Minister of Environment, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve Mule Deer and Columbian Black-tailed Deer; 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 UWR U-2-006.
3. Pursuant to section 7(3) 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 deer winter range in the Fraser TSA.
4. The general wildlife measures 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*, the *Mines Act*, the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Geothermal Resources Act*.

## **Definitions:**

For the purposes of this order:

**capable winter range** means areas within established ungulate winter ranges which are situated on warm aspects (135-285°), and moderate to steep slopes (40-100%, including associated benches) that are not exposed to topographic shading from adjacent hillsides. Includes areas that may be interspersed with small openings (<0.5 ha), and/or rock outcrops exposed to solar radiation to provide warmth and snow ablation. Gentle slopes in the shallow snow zone which are generally snow free are also capable habitat regardless of forest canopy attributes. (Schedule B map).

**deep snow zone** means areas of an ungulate winter range that are >800m elevation.

**moderate snow zone** means areas of an ungulate winter range that are between 400m elevation and 800m elevation.

**mainline road** means a principal timber extraction road.

**non-retention ungulate winter range** means an area within an ungulate winter range that is not being managed as suitable snow interception habitat, recruitment habitat, open suitable habitat or young suitable snow interception habitat to meet the requirements of general wildlife measures 1, 2 and 4.

**open suitable habitat** means capable winter range areas with the following forest attributes: mature (>100 years old) or old growth (>250 years old) Douglas-fir leading (>40% fir) forest that has been confirmed to have moderate to high deer use as winter habitat; with at least 90% of tree heights >19.5m (up to 10% can come from height class 2) or site index >12; crown closure class ≤5%; exhibit multiple canopy layers and large well developed crowns.

**primary forest activities** is as defined in the *Forest Planning and Practices Regulation*

**recruitment habitat** means, for the purposes of general wildlife measure 1, 2 and 4, capable winter range areas which:

- (a) will provide leading Douglas-fir (>40% fir) forest stands with Site Index >12
  - i) that will, when a deficit occurs in the required percent in suitable snow interception habitat, recruit to suitable snow interception habitat in the shortest time frame possible; or
  - ii) that will, when a deficit occurs in the percent allowed in young suitable snow interception habitat, recruit to suitable snow interception habitat and minimize impact on available timber supply; and
- (b) will provide contiguous recruitment habitat patches >20 ha or is adjacent to suitable snow interception habitat such that a contiguous patch is >20 ha; and
- (c) can include young suitable snow interception habitat in excess of the 20% limit, where required.

**retention area** means the ungulate winter range area maintained in suitable snow interception habitat, recruitment habitat, open suitable habitat or young suitable snow interception habitat to meet the requirements of general wildlife measure 1, 2 and 4.

**shallow snow zone** means areas of an ungulate winter range that are <400m elevation.

**suitable snow interception habitat** means capable winter range areas with the following forest attributes:

mature (>100 years old) or old growth (>250 years old) Douglas-fir leading (>40% fir) forest, or MOE defined winter range (Schedule B map), that has been confirmed to have moderate to high deer use as winter habitat; with at least 90% of tree heights >19.5m (up to 10% can come from height class 2) or site index >12; crown closure class >35%; exhibit multiple canopy layers and large well developed crowns; or Spotted Owl Type A habitat (i.e., old forests with superior habitat suitable for spotted owl nesting, roosting, foraging, and dispersal) that is leading Douglas-fir (>40%) with crown closure class >35%.

**temporary road** means a road that is required only for a limited period during a specific forest management phase leading to, or occurring within, a cutblock. These include: excavated or bladed trails, main skid trails, backspur trails, corduroyed trails, and other similar structures.

**traditional and cultural activities** is as defined in the *Free Use Permit Regulation*

**young suitable snow interception habitat** means capable winter range areas with the following forest attributes:

- (a) in the deep snow zone, may include young forests (60-100 years old) leading in Douglas-fir (>40% fir) with crown closures exceeding 55%, and Site Index >12 that comprise up to 20% of the total amount of suitable snow interception habitat.
- (b) in the moderate snow zone in Big Silver, Chehalis, Chilliwack, Coquihalla, East Harrison, Hatzic, Mehatl, Pitt, Silverhope, Spuzzum, Stave, Tretheway, West Harrison and Yale Landscape Units, may include young forests (60-100 years old) leading in Douglas-fir (>40% fir) with crown closures exceeding 55%, and Site Index >12 that comprise up to 20% of the total amount of suitable snow interception habitat.

#### **Schedule 1 – General Wildlife Measures:**

1. Within the following ungulate winter ranges: BS1-3, BS4-6, BS7-25, BS8-9, BS9-11, BS13-15, BS16-17, BS18-19, BS20-21, BS24, BS28, BS29-31, BS32, BS32a, BS33, CH2-6, CH7, CH9-11, CH14-16, CH18-19, CL1-3, CL4-6, CL28-31, CL41-43, CQ1-3, CQ4-16, CQ18-26, CQ27-29, CQ30, CQ33-36, CQ38-39, CQ40-44, CQ46, EH2-5, EH7, EH21, EH26, EH32, HT6, MH13-14, MH15-16, MH17-NA33, MH24, PI2-6, SH1-3, SH4-5, SH10-13, SH15-17, SH18-26, SH20-22, SH23-24, SP1, SP4-6, SP14-15, SP19-20, SP21-26, YA1, YA3-AN15, YA4-7, YA8-9, YA10-13, YA11-12, YA16-24, YA18-25, YA26-27, YA31, YA40-48, YA44, YA51-53 located in Big Silver, Chehalis, Chilliwack, Coquihalla, East Harrison, Hatzic, Mehatl, Pitt, Silverhope, Spuzzum, Stave, Tretheway, West Harrison and Yale Landscape Units:
  - (a) (i) maintain at least 65% of the capable winter range area in the deep snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
  - (ii) maintain at least 65% of the capable winter range area in the moderate snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
  - (iii) maintain at least 20% of the capable winter range area in the shallow snow zone in each ungulate winter range as suitable snow interception habitat.

- (b) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 1(a), maintain:
    - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
    - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat required.
  - (c) within each ungulate winter range maintain not less than one contiguous area that is  $\geq 40$  ha of suitable snow interception habitat. Minimum patch size for other retention areas should be  $\geq 20$  ha, and where retention requirements by snow zone are  $< 20$  ha the small retention amount should be combined with a patch in the adjacent snow zone.
  - (d) if replacement of suitable snow interception habitat, as identified in (a), (b) or (c) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.
2. Within the following ungulate winter ranges: AI1-4, AI7-8, AI10-30, AI16-19, AI20-23, AI26-28, AI2-AN40, AN3-6, AN7-9, AN8, AN10-12, AN17-22, AN24-27, AN28-29, AN30-33, AN36-38, MA11-16, MA18-46, MA19-28, NA1-6, NA11-16, NA17-19, NA30-32, NA34-36 located in Ainslie, Anderson, Manning, and Nahatlatch Landscape Units:
- (a) (i) maintain at least 60% of the capable winter range area in the deep snow zone in each ungulate winter range as suitable snow interception habitat. Up to 20% of this amount may be comprised of young suitable snow interception habitat.
  - (ii) maintain at least 40% of the capable winter range area in the moderate snow zone in each ungulate winter range as suitable snow interception habitat.
  - (iii) maintain at least 20% of the capable winter range area in the shallow snow zone in each ungulate winter range as suitable snow interception habitat.
  - (b) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 2(a), maintain:
    - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
    - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat;
  - (c) within each ungulate winter range, maintain not less than one contiguous area that is  $\geq 50$  ha of suitable snow interception habitat. Minimum patch size for other retention areas should be  $\geq 20$  ha, and where retention requirements by snow zone are  $< 20$  ha the small retention amount should be combined with a patch in the adjacent snow zone.
  - (d) if replacement of suitable snow interception habitat, as identified in (a), (b) or (c) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.
3. Primary forest activities are not permitted within each of the following ungulate winter ranges: AN34, BS23, BS37, CL13, CQ31, CQ37, MA5-7, MA7-11, NA8-9, NA22, NA25-26, PI9, SP22, TR4, YA29, YA34. General wildlife measure 3 does not apply for the purposes of traditional and cultural activities.
4. Within established ungulate winter ranges:
- (a) AI13-15 maintain 4.5 ha of the winter range area in the shallow snow zone as suitable snow interception habitat; and 95.5 ha of the winter range area in the moderate snow zone as suitable

snow interception habitat; and 30.9 ha of the winter range area in the deep snow zone as suitable snow interception habitat.

- (b) AN13-18 maintain 67.5 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 38.6 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
- (c) MH12 maintain 0.2 ha of the capable winter range area in the shallow snow zone in suitable snow interception habitat; and 86.5 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 14.4 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
- (d) ST2 maintain 51.0 ha of the capable winter range in the moderate snow zone as suitable snow interception habitat; and 3.1 ha of the capable area in the deep snow zone in suitable snow interception habitat. Design a maximum of two patches for retention.
- (e) CL7-8 maintain 108.9 ha of the capable winter range area in the moderate snow zone in suitable snow interception habitat; and 67.2 ha of the capable winter range area in the deep snow zone in suitable snow interception habitat.
- (f) where sufficient suitable snow interception habitat does not exist to meet the required amount in general wildlife measure 4(a)(b)(c)(d)(e), maintain:
  - (i) open suitable habitat to address any deficit in the amount of suitable snow interception habitat; or
  - (ii) recruitment habitat to address any deficit in the amount of suitable snow interception habitat;
- (f) within ungulate winter range AI13-15 and AN13-18, maintain not less than one contiguous area that is  $\geq 50$  ha of suitable snow interception habitat. Minimum patch size for other retention areas should be  $\geq 20$  ha, and where retention requirements by snow zone are  $< 20$  ha the small retention amount should be combined with a patch in the adjacent snow zone.
- (g) within ungulate winter range CL7-8, MH12 and ST2, maintain not less than one contiguous area that is  $\geq 40$  ha of suitable snow interception habitat. Minimum patch size for other retention areas should be  $\geq 20$  ha, and where retention requirements by snow zone are  $< 20$  ha the small retention amount should be combined with a patch in the adjacent snow zone.
- (h) if replacement of suitable snow interception habitat, as identified in (a), (b), (c), (d) or (e) above, is considered over time, the replacement snow interception habitat must be equivalent or better in quality and quantity to the original area.

5. Before a person carries out primary forestry activities within an ungulate winter range:

- (a) areas of suitable snow interception habitat or any young suitable snow interception habitat, and any required recruitment habitat must be spatially identified on a map. Non-contributing land base areas, as defined by TSR2, known to currently provide suitable snow interception habitat, must be selected as a first priority for meeting the suitable snow interception habitat requirements.
- (b) the map must be made available upon request of an official of Ministry of Forests and Range or Ministry of Environment.

6. Helicopter logging within an ungulate winter range must be completed between May 1 to November 15 of a calendar year to prevent disturbance to wintering deer.

7. (a) New roads, trails or landings that are required within non-retention ungulate winter range are to be temporary, except when required as mainline roads. Deactivation (as per FPPR s82) of temporary roads, excluding mainline roads, is required within one year after regeneration date if practicable; or otherwise within 1 year after the last silviculture treatment performed to achieve

free to grow.

(b) Do not construct new roads, trails or landings within identified retention areas.

(c) general wildlife measure 7 (b) does not apply to:

(i) the construction of mainline road through retention winter range in CH14-16 and CH18-19, to provide future access up the east side of Chehalis Lake.

(ii) the construction of future temporary road (beginning from existing cutblock F001) through retention winter range in CH7 in Woodlot License 1698 to access timber outside the ungulate winter range.


8. Where differences may occur between inventory data and on the ground data, the on-ground data will take precedence in planning for suitable snow interception habitat and timber harvesting. Records pertaining to differences are to be kept on file by licensees and must be made available upon request of an official of Ministry of Forests and Range or Ministry of Environment.

9. Use of pesticides, except as provided by general wildlife measure 10 and 11, is limited to ground based spot treatment within 1m of desirable crop trees.

10. General wildlife measure 9 does not apply to the use of *Bacillus thuringiensis* for the control of western spruce budworm and beetle pheromones for the control of bark beetles.

11. General wildlife measure 9 does not apply for the treatment of invasive plant species and noxious weeds.

12. Within all ungulate winter ranges general wildlife measure 1, 2, 3 and 4 do not apply as necessary to fell trees required for guyline tiebacks in the ungulate winter range. Any trees felled within identified suitable snow interception habitat must be left onsite to provide coarse woody debris. The portion of felled trees that lies in whole, or in part, outside the suitable snow interception habitat may be harvested.



Signed this 22 day of Sept., 2009

Doug Konkin, Deputy Minister

Ministry of Environment

## Appendices

These appendices are not part of the legal order for U-2-006, they are intended to provide background information and support to the legal order establishing U-2-006.

### Appendix 1

1. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. In instances where it is not practicable to comply with these measures, a person proposing to conduct forestry activities should consider seeking an exemption from the requirements to comply with the applicable General Wildlife Measures.

An exemption application should be submitted to the Ministry of Environment's Regional Manager at the Lower Mainland Regional Office – at 10470 152 Street Surrey, BC V3R 0Y3 (a template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>). The exemption application must include a rationale describing the nature of the problem and options to integrate winter range conservation with proposed forest 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 for timing window exemptions will be processed within 10 calendar days, all other exemptions will be handled within 14 calendar days of arrival at the MOE Regional office. Incomplete packages will be returned to the proponent for resubmission.

2. For the purposes of interpreting general wildlife measure 1 (a) & (b), 2 (a) & (b), and 4 (a) to (e) the intent is that moderate to high use deer winter range is designated to meet retention requirements. However, in some winter ranges ideal suitable snow interception habitat and young suitable snow interception habitat (to the 20% limit where allowed) may not exist in sufficient quantity. When this occurs and selection from other forest stand types becomes necessary, select from open suitable habitat or recruitment habitat as needed to meet retention requirements and in attempt to minimize impact to timber supply. See the Table in Appendix 3 for recommended selection order. It is recognized that open suitable habitat comes from stands with low stocking and therefore will likely never recruit to suitable snow interception habitat. For this reason, try to minimize this component.
3. For purposes of general wildlife measure 1, 2 and 4, the intent for non-retention area in ungulate winter range is that it will provide deer forage over a rotation. Harvesting and silviculture activities should therefore be planned accordingly such that forage supply is accommodated over time. Ministry of Environment will be monitoring this component of the winter range.
4. To calculate retention area amounts in general wildlife measure 1, 2 and 4, areas within ungulate winter range mapped as capable winter range habitat were used. In some winter ranges small areas of non-capable habitat may lie within the ungulate winter range boundary. As well, in some winter ranges small areas of capable area may never become suitable and will not be used to contribute towards retention. Engaging the services of a qualified professional will be

helpful in determining suitable snow interception habitat requirements.

5. In regards to general wildlife measure 1 (d), 2 (d) and 4 (h), to consider replacement of identified retention area over time, replacement area that is of similar or better quality (e.g. attributes such as age, stand composition, patch size, snow zone) must be identified to at least an equivalent amount and in the same ungulate winter range. It is important that a qualified professional indicates that the replacement habitat is functioning as suitable snow interception habitat.

To further facilitate replacement, tree species selection and stem density management (e.g. silvicultural activities) in ungulate winter range should result in a mix of large crowns and multiple canopy layers to ensure the stand will recruit to and be eligible for suitable snow interception habitat.

Basic and incremental silviculture activities in ungulate winter range should manage for Douglas-fir as the preferred and leading tree species wherever the ecological characteristics of the forest site are suitable for the purpose.

6. In regards to general wildlife measure 3 and 4 (a) to (e), a different amount of retention from the standard used elsewhere is used for one of three reasons: a) deer winter range habitat extends into an adjacent park and park habitat contributes to the retention amount; b) the winter range size is small and requires 100% retention to remain viable, forage is supplied internally or in adjacent openings; or c) the deer winter range overlaps with spotted owl long term owl habitat areas (LTOHA) and has no access.
7. As per general wildlife measure 5 (a), the “hatched” polygons on Schedule B maps represents MOE defined deer winter range (using TSR 2), as determined by field survey. Both the non-contributing (NCLB) and contributing land bases (THLB) are shown. When spatially identifying areas on a map for the purposes of general wildlife measure 5, consideration should be given to the selection of MOE defined winter range first from the NCLB, then from areas that will minimize impact on available timber supply (i.e. this could be THLB that is not of commercial interest), then from THLB areas. See Appendix 3 for the recommended selection order.

These MOE defined winter ranges are derived from winter field surveys and were known to function as deer winter range under forest conditions at the time of survey. Since these maps were derived from mapping completed in 2001 and 2002, some of the currently suitable snow interception habitat has been harvested. In other cases, MOE defined winter range does not account for small mapable areas of Pine stands, low crown closure, non-forested excluded land, Non-productive brush, or similarly non-forested areas (>1 ha in size). These harvested areas, Pine stands, low crown closure, or non-forested areas are not to contribute towards the percent retention amount (e.g. if a 60 ha patch of otherwise currently suitable snow interception habitat contains 10 ha of non-forested area, count 50 ha towards the target).

8. For situations when retention ungulate winter range overlaps with long term owl habitat area (LTOHA) and habitat enhancement treatment is proposed under the Spotted Owl plan, it will be important for a qualified professional to indicate that any treatment achieves the general wildlife measures in this order. In overlapping deer/LTOHA, emphasis should be placed on carrying out Habitat Enhancement Practices within forests 60-100 years old due to a greater

likelihood that there will be a benefit to deer when comparing pre and post treatment stand conditions (i.e. forest stands age >100 years old likely already provide multiple winter range attributes for deer, while stands aged <100 years may only provide snow interception habitat). It is acknowledged that habitat enhancement opportunities are allowed in older LTOHA forests (>100 years old to usually 140 years old). If treatment in older forest is considered in retention deer winter range a more careful review of compliance with this order should be undertaken. If a conflict between the Spotted Owl Management Plan and this order arises from a proposed forest activity, the proponent needs to first assess their proposal for compliance, and can consider applying for an exemption should it be deemed necessary and biologically appropriate.

9. For general wildlife measure 7 (a), new roads, trails or landings within non-retention ungulate winter range, where required for forestry purposes, should be temporary (except main lines). This is important since the intent of non-retention areas is to provide forage for deer, and deer need to be able to access these areas without added stress or disturbance from humans. Stress and disturbance cause deer to burn important fat reserves, which are critical for deer overwinter survival. Road layout should minimize the length of road required and clearing width should be kept to a minimum. Impacts of roads can be reduced by avoiding routes across ridge breaks or rock outcrops, and by maintaining under-story cover along road edges. The intent of deactivation is such that the road or trail is not driveable with a 4 wheel drive vehicle; and that deactivation is carried out in the shortest time frame possible.

For general wildlife measure 7 (b) where roads are required through retention areas (as provided by exemption), a replacement area of at least equivalent size and value would have to be identified contiguous to the affected retention area. This condition will be part of the exemption.

10. Where an established ungulate winter range is subject to the operations of multiple *Forest Act* agreement holders, which may include areas under Timber Licence and Woodlot Licence, cooperation between licence holders should occur in order to select suitable snow interception habitat in compliance with the general wildlife measures established by this order.
11. In the definition for "open suitable habitat" and "suitable snow interception habitat", most of the retention area is to come from mature or old forest stands of height class 3 or greater (>19.5 m). A provision for up to 10% from height class 2 (10.5-19.4m) is included to allow some flexibility by inclusion of small areas of shorter trees interspersed with height class 3. It is important to understand that limitations on shorter trees are required since they will generally not provide large crowns to intercept snow.
12. In the definition for "open suitable habitat" and "suitable snow interception habitat" moderate to high deer use is a relative assessment to other areas within that particular UWR polygon.
13. These general wildlife measures do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling); and to carry out road maintenance, road deactivation, brushing or clearing on existing roads within the ungulate winter range. These activities will be carried out in a manner that will not result in a material adverse impact on the suitable habitat.

## Appendix 2

**Table 1.** Ungulate winter range name, retention amount by snow zone, total retention, comments and percent retention.

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
AI 10-30		25.8	141.9	167.6	40/60
AI 13-15	4.5*	95.5	30.9	130.9	Skewed to west
AI 1-4	23.0	139.4	37.4	199.8	20/40/60
AI 16-19	4.4*	112.9	8.4*	125.7	20/40/60
AI 2-AN 40	38.5	29.4		67.9	20/40
AI 20-23	12.7*	111.1	35.1	158.8	20/40/60
AI 26-28	2.3*	41.5	75.8	119.5	20/40/60
AI 7-8		77.9	83.2	161.1	40/60
AN 10-12	21.1	89.1	22.6	132.8	20/40/60
AN 13-18	0	67.5	38.6	106.1	Some Ret'n in Park
AN 17-22		97.3	139.0	236.4	40/60
AN 24-27	0.6*	108.2	19.5	128.3	20/40/60
AN 28-29	11.8*	74.2	11.2*	97.1	20/40/60
AN 30-33		64.9	77.9	142.8	40/60
AN 34		60.5	70.0	130.4	100% Small
AN 3-6	3.7*	92.2	64.9	160.8	20/40/60
AN 36-38		80.4	78.1	158.6	40/60
AN 7-9	17.9*	57.7	19.9	95.5	20/40/60
AN 8	8.8*	97.7	12.2*	118.7	20/40/60
BS 1-3	19.3	88.6	40.4	148.3	20/65/65
BS 13-15	20.2	113.8	70.1	204.2	20/65/65
BS 16-17	10.9*	106.6	72.3	189.8	20/65/65
BS 18-19	25.2	86.8	33.4	145.3	20/65/65
BS 20-21	13.7*	96.4	51.8	161.9	20/65/65
BS 23	66.4	91.3		157.7	100% Small
BS 24	9.7*	114.4	19.2	143.3	20/65/65
BS 28	1.2*	81.6	61.7	144.5	20/65/65
BS 29-31	23.3	102.7	74.8	200.8	20/65/65, GWR
BS 32	8.4*	62.9	70.7	141.9	20/65/65
BS 32a	35.0	20.4		55.4	20/65
BS 33		10.6*	63.1	73.6	65/65
BS 37		86.3	49.9	136.3	100% Small
BS 4-6	27.2	114.3	48.3	189.8	20/65/65
BS 7-25	5.7*	97.2	97.6	200.5	20/65/65
BS 8-9	28.7	58.3		86.9	20/65
BS 9-11	5.6*	141.4	2.6*	149.6	20/65/65
CH 14-16	6.1*	118.0	21.9	146.0	20/65/65
CH 18-19		110.0	84.4	194.4	65/65
CH 2-6	0.3*	105.2	83.7	189.2	20/65/65

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
CH 7		146.4	53.9	200.3	65/65
CH 9-11		92.3	44.3	136.6	65/65
CL 13		25.3	57.0	82.3	100% Small
CL 1-3		164.3	100.1	264.4	65/65
CL 28-31		55.4	94.3	149.7	65/65
CL 41-43		7.9*	76.3	84.1	65/65
CL 4-6		119.0	120.6	239.6	65/65
CL 7-8		108.9	67.2	176.1	Minor ret'n in park
CQ 1-3		63.4	65.7	129.1	65/65
CQ 18-26		162.7	123.1	285.8	65/65
CQ 27-29		109.8	70.6	180.4	65/65
CQ 30	1.0*	41.1	12.2*	54.2	20/65/65
CQ 31	2.4	50.8	25.7	78.9	100% Small/LTOH
CQ 33-36	4.9*	102.8	66.8	174.5	20/65/65
CQ 37		9.8	54.1	63.9	100% Small/LTOH
CQ 38-39	6.8*	131.7	67.8	206.4	20/65/65
CQ 40-44	16.4*	182.3	87.8	286.5	20/65/65
CQ 4-16		102.9	83.6	186.5	65/65
CQ 46	13.5*	145.0	26.8	185.3	20/65/65
EH 21	7.1*	107.8	28.3	143.1	20/65/65
EH 2-5		74.8	53.0	127.8	65/65
EH 26		123.2	117.2	240.4	65/65
EH 32		24.0	51.2	75.2	65/65
EH 7	5.3*	76.9	82.2	164.4	20/65/65
HT 6	3.2*	78.6	11.7*	93.6	20/65/65
MA 11-16		25.1	179.2	204.2	40/60
MA 18-46			72.7	72.7	60
MA 19-28		17.3*	41.3	58.6	40/60
MA 5-7			118.8	118.8	100% LTOH
MA 7-11		0.5	271.8	272.3	100% LTOH
MH 12	0.2*	86.5	14.4*	101.1	Some Ret'n in Park
MH 13-14	0.5*	188.7	102.7	291.8	20/65/65
MH 15-16		83.1	84.2	167.3	65/65
MH 17-NA 33	4.7*	194.1	110.9	309.7	20/65/65
MH 24		51.4	91.0	142.4	65/65
NA 11-16	2.7*	135.2	104.7	242.6	20/40/60
NA 1-6	10.7*	82.4	15.0*	108.1	20/40/60
NA 17-19	4.7*	122.0	110.3	237.0	20/40/60
NA 22		31.6	31.5	63.1	100% Small
NA 25-26		53.6	43.4	96.9	100% Small
NA 30-32	2.8*	111.2	86.4	200.4	20/40/60
NA 34-36	25.6	59.4	10.2*	95.2	20/40/60
NA 8-9	23.4	50.8	38.2	112.4	100% Small
PI 2-6	47.9	48.6		96.5	20/65
PI 9	2.5	56.1	1.1	59.7	100% Small
SH 10-13		55.7	84.2	139.9	65/65

UWR Name	Shallow Ret'n (ha)	Moderate Ret'n (ha)	Deep Ret'n (ha)	Total Ret'n (ha)	Comments & % retention
SH 1-3	0.0	124.9	83.2	208.1	65/65
SH 15-17		133.5	78.2	211.7	65/65
SH 18-26		157.9	101.7	259.6	65/65
SH 20-22		95.9	109.5	205.4	65/65
SH 23-24		75.1	128.9	204.0	65/65
SH 4-5	2.2*	134.4	70.4	207.0	20/65/65
SP 1	5.7*	60.3	17.9*	83.9	20/65/65
SP 14-15		39.8	60.4	100.2	65/65
SP 19-20		110.4	87.7	198.1	65/65
SP 21-26	12.2*	153.2	57.1	222.5	20/65/65
SP 22	44.3	58.9		103.1	100% Small
SP 4-6	12.9*	79.2	40.0	132.1	20/65/65
ST 2	0.0	51.0	3.1*	54.1	Some Ret'n in Park
TR 4	11.5	92.1	4.1	107.7	100% Small
YA 1	27.3	113.3	11.3*	152.0	20/65/65
YA 10-13	10.4*	94.8	89.8	195.1	20/65/65
YA 11-12		117.9	104.9	222.8	65/65
YA 16-24	0.4*	44.1	61.1	105.7	20/65/65
YA 18-25	25.6	144.2	100.2	270.0	20/65/65
YA 26-27	3.5*	105.6	55.6	164.7	20/65/65
YA 29	51.7	22.3		74.0	100% Small
YA 3-AN 15	8.8*	139.6	0.6*	149.0	20/65/65
YA 31	19.3	54.5		73.8	20/65
YA 34	69.2	35.2		104.4	100% small
YA 40-48	0.1*	129.2	32.1	161.4	20/65/65
YA 44	0.2*	135.7	33.2	169.1	20/65/65
YA 4-7	21.1	161.2	30.9	213.1	20/65/65
YA 51-53	26.8	171.1	31.9	229.9	20/65/65
YA 8-9	17.6*	121.2	74.0	212.8	20/65/65
<b>Grand Total</b>	<b>1012.9</b>	<b>10046.4</b>	<b>6633.8</b>	<b>17693</b>	

Note: small errors in addition are due to rounding.

\* represents the snow zones where small retention amounts should be combined with patches in adjacent snow zones as specified in general wildlife measure 1 (c), 2 (c) & 4 (f) (g). Achieving this will help to ensure that retention patches are effective and function as winter range. Note: winter ranges where retention is 100% are not highlighted.

### Appendix 3

Table 2. Recommended selection order priority for retention area by suitability type and TSR 2 land base classification (e.g. when retention requirements can not be met by area in priority #1, select from available area in #2, then #3 etc.). A person may choose from THLB categories as a higher priority if that helps minimize overall impact to timber supply while still addressing retention requirements.

Priority	Suitability Description	Additional Description	TSR2 Land Class'n*	Comment
1	Currently Suitable	MOE defined DWR**	NCLB	
2	Currently Suitable		NCLB	
3	Young Suitable	MOE defined DWR	NCLB	Up to 20% Limit
4	Young Suitable		NCLB	Up to 20% Limit
5	Open Suitable	MOE defined DWR	NCLB	
6	Open Suitable		NCLB	
7	Currently Suitable	MOE defined DWR	THLB	
8	Currently Suitable		THLB	
9	Young Suitable	MOE defined DWR	THLB	Up to 20% Limit
10	Young Suitable		THLB	Up to 20% Limit
11	Open Suitable	MOE defined DWR	THLB	
12	Open Suitable		THLB	
13	Young Suitable	MOE defined DWR	NCLB	Above 20% Limit (as recruitment)
14	Young Suitable		NCLB	Above 20% Limit (as recruitment)
15	Recruitment	MOE defined DWR	NCLB	
16	Recruitment		NCLB	
17	Young Suitable	MOE defined DWR	THLB	Above 20% Limit (as recruitment)
18	Young Suitable		THLB	Above 20% Limit (as recruitment)
19	Recruitment	MOE defined DWR	THLB	
20	Recruitment		THLB	

\* NCLB = Non-contributing land base

THLB = Timber harvesting land base (contributing & partial contributing)

\*\* MOE defined DWR = this winter range has been confirmed as important/functioning by MOE.



*PART OF THE*



## **Appendix 2c**

**Wildlife: Pacific (Coastal) Tailed Frog Order**



## **ORDER – WILDLIFE HABITAT AREAS 2-511 to 2-513**

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 delegated decision maker, being satisfied that
  - i. the following area contains habitat that is necessary to meet the habitat requirements for Pacific Tailed Frog (*Ascaphus truei*); 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 (2-511 to 2-513) 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 Pacific Tailed Frog. 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 delegated decision maker, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the habitat of Pacific Tailed Frog; 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 2-511 to 2-513
3. Pursuant to section 7(3) 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 Pacific Tailed Frog in the Chilliwack Natural Resource District.

**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.

**Schedule 1 – General Wildlife Measures***Access*

1. Do not construct roads, trails, landings or stream crossings within the core area or management area.

*Timber Harvesting*

2. No timber harvesting is permitted.
3. GWM 2 does not apply if:
  - a. it is necessary to create guyline tiebacks for timber harvesting adjacent to a WHA boundary;
  - b. trees felled in accordance with GWM 3 a) are retained on-site to function as coarse woody debris, unless the felled tree poses a forest health risk; or
  - c. cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit.
4. GWM 2 does not apply to the management area if:
  - a. a minimum of 70% basal area is retained;
  - b. all high value wildlife trees are retained; and
  - c. timber harvesting is conducted in a manner that minimizes potential for future windthrow.
5. No falling or yarding across streams is permitted.
6. No salvage activities are permitted.

*Range*

7. Limit shrub use by livestock to no more than 10% of the current year's growth of shrubs.
8. No livestock attractants are permitted.
9. No water developments are to be constructed or located.

*Pesticide*

10. No pesticide use is permitted, except for:
  - a. using *Bacillus thuringiensis var kurstaki* for the control of western spruce budworm;
  - b. using beetle pheromones for the control of bark beetles; and
  - c. using herbicides to control invasive plants or noxious weeds, if applied by:
    - i. stem injection, cut and paint, foliar wipe or other direct plant application;or

- ii. spot spraying individual plants or a cluster of plants if direct plant application is not practicable.

*Recreation*

- 11. Do not develop sites, trails, facilities or structures for recreational purposes.



Signed this 1st day of April, 2014

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

## Appendix 1:

The following information is provided by the Ministry of Forests, Lands & Natural Resource Operations (FLNR) and the Ministry of Environment as background information and support to the Order establishing WHAs 2-511, 2-512, 2-513. This appendix is not part of the Order.

1. 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*.

2. Authority to consider an exemption from these GWMs is provided in Section 92(1) of the *Forest Planning and Practices Regulation*, section 79(1) of the *Woodlot Licenses Planning and Practices Regulation* and section 36(3) of the *Range 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 despite the activity, 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 Pacific Tailed Frog 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 made within 14 days of arrival at the FLNR Regional office. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>

3. Where an exemption is provided to the requirements of GWM 1, consideration may be given to adding the following condition(s) to the approval of the exemption:
  - a. Use of clear span bridges or bottomless culverts for any required stream crossings
  - b. Rehabilitation of sites where temporary access structures were installed.
4. The intent of GWM 1 is to minimize impacts to Pacific Tailed Frog in-stream riparian habitats. The location, type of crossing, mitigation measures during construction, and short and long-term sediment control on roads should all be considered when submitting

exemption requests to the Director of Resource Management, South Coast Region for road construction within the WHA. It is recommended that these factors also be taken into consideration when constructing roads adjacent to the WHA. If practicable, stream crossings should be constructed downstream of the WHA.

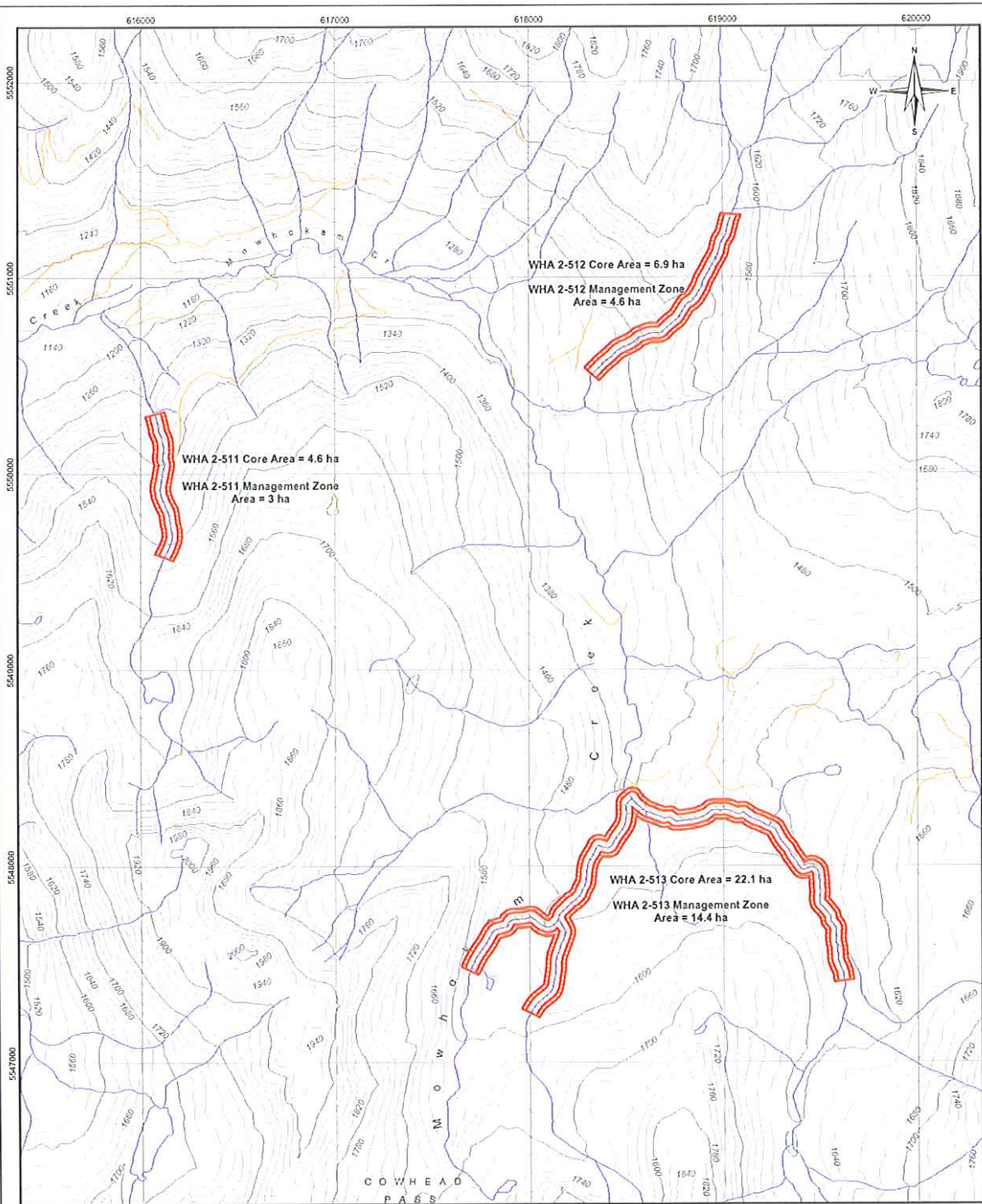
5. GWM 1 does not apply to road maintenance, road deactivation, brushing or clearing on existing permitted roads within the WHA. These activities should be carried out in a manner that will not result in a material adverse impact on the WHA.
6. Regarding GWM 4, the objective of partial harvest in the management area should be to create or maintain old forest characteristics such as large diameter trees, multi-layered canopies, snags and coarse woody debris.
7. Regarding GWM 4(b), where safety permits the intent is to retain all high value wildlife trees in the management area, as defined in Table 1 (*from* Provincial Wildlife Tree Policy and Management Recommendations, 2000).

**Table 1: Wildlife tree characteristics**

Wildlife Tree Value	Characteristics
<p><b>HIGH</b></p> <p>A high-value wildlife tree has at least two of the characteristics listed in the adjacent column.</p>	<ul style="list-style-type: none"> <li>• Internal decay (heart rot or natural/ excavated cavities present)</li> <li>• Crevices present (loose bark or cracks suitable for bats)</li> <li>• Large brooms present</li> <li>• Active or recent wildlife use</li> <li>• Current insect infestation</li> <li>• Tree structure suitable for wildlife use (e.g., large nest, hunting perch, bear den, etc.)</li> <li>• Largest trees on site (height and/or diameter) and/or veterans</li> <li>• Locally important wildlife tree species</li> </ul>
<b>MEDIUM</b>	<ul style="list-style-type: none"> <li>• Large, stable trees that will likely develop two or more of the above attributes for High</li> </ul>
<b>LOW</b>	<ul style="list-style-type: none"> <li>• Trees not covered by High or Medium</li> </ul>

8. Regarding GWM 4(c) the intent is to minimize the risk of windthrow occurring within a WHA, particularly in the core area. FLNR recommends that any windthrow assessment follows those guidelines as prescribed under the 1994 Windthrow Handbook for BC Forests (Research Program Working Paper 9401). In addition, windthrow assessment practitioners should be familiar with the windthrow assessment course through FLNR. <http://www.for.gov.bc.ca/hfp/training/00015/resources.html>

9. The delegated decision maker may require fencing to be established along a WHA boundary to maintain riparian forest and structural elements within Pacific Tailed Frog habitat. Should it be determined that fencing is required, FLNR will work collaboratively with the range tenure holder to explore opportunities for funding assistance and to determine areas of responsibility for fence construction and maintenance.
10. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling as per 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. Where possible, offset retention should be considered elsewhere when meeting the safety concern reduces retention. Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements).



**Schedule A**  
**Wildlife Habitat Area**  
**WHA Numbers 2-511 to 2-513**

**Legend**

- WHA - Core Area
- WHA - Management Zone

0 200 400 600 800 1,000  
 Meters  
 Scale 1:20,000

Contour Interval 20 m  
 Projection UTM Zone 10  
 Datum NAD 83

**Original Signed April 1, 2014**

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

For more information contact  
 Habitat Management Section  
 Fish, Wildlife and Habitat Management Branch  
 Ministry of Forests, Lands  
 and Natural Resource Operations  
 250-356-7719

Map Produced by the  
 Knowledge Management Branch  
 Ministry of Environment



*PART OF THE*



# **Appendix 2d**

**Wildlife: Spotted Owl Order**

**ORDER – WILDLIFE HABITAT AREAS 2-494 to 2-510**

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 Deputy Minister of 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) this order cancels and replaces the order established on June 13, 2006, entitled “ORDER – WILDLIFE HABITAT AREA #2-317, 2-318 and 2-319”;
  - b) this order cancels and replaces a portion of the order (that portion specific to 3-037, 3-038, 3-039) established June 13, 2006, entitled “ORDER – WILDLIFE HABITAT AREA #3-034 to 3-039”;
  - c) this order cancels and replaces the order established on November 6, 2006, entitled “ORDER – AMENDMENT TO WILDLIFE HABITAT AREA 3-037”;
  - d) the areas shown in the map set out in the attached Schedule A (2-494 to 2-510) 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 Areas (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
  - e) 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 Deputy Minister of 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 2-494 to 2-510
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 Chilliwack Forest 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* (FRPA) 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 Natural Resource Operations and identified by the Director, 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, timber extraction corridors, landings, natural non-productive area (e.g. rocky outcrops, slides, wetlands), wildlife tree retention areas, other 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 and excludes road rights-of-way (the road prism: top of cut bank to toe of fill slope), natural non-productive areas, wildlife tree retention areas and other 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.

#### **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 7.
2. GWM 1 does not apply to:
  - a) Teal-Jones block SQ1: at Sowaqua Creek, located within WHA 2-498, as engineered or designed in May 2009; and where the post harvest attributes to be maintained will be consistent with the *1997 Spotted Owl Management Plan* and the *1999 Spotted Owl Management Plan – Resource Management Plans*;
  - b) BC Timber Sales block DP101: at Depot Creek, located within WHA 2-495, as engineered or designed in May 2009 including in-block spur road construction, and provided harvesting is complete by September 30, 2014. Post harvest attributes to be maintained will be consistent with the *1997 Spotted Owl Management Plan* and the *1999 Spotted Owl Management Plan – Resource Management Plans*;
  - c) Tamihi Logging block 8710 and associated road construction: at Cantelon Creek, located within WHA 2-496, where up to 11 ha can be harvested as shown on the Tamihi map dated January 28, 2011; and where the post harvest attributes will be consistent with the *1997 Spotted Owl Management Plan* and the *1999 Spotted Owl Management Plan – Resource Management Plans*;
  - d) Tamihi Logging blocks 2009 to 2011, 2012A, 2013 to 2021 (13 in total), and associated road: at Ford Mountain and Post Creek, located within WHA 2-495, where up to 142.4 ha can be harvested as jointly agreed to in January 2011 between Tamihi Logging and Ministry of Natural Resource Operations. For all blocks, the post harvest attributes will be consistent with managed future habitat area as per GWM 5 in this order; and upon completion of harvesting, the block areas will be managed as LTOHA;

- e) Tamihi Logging blocks BS 213, BS214, BS215 and associated road: in Clear Creek located, within WHA 2-503, where up to 40 ha of the 47 ha proposed in several blocks (as per Tamihi map dated July 19, 2010) can be harvested provided that a minimum 150m buffer of mature forest is retained (as described in MOEs letter of July 30, 2010 and as shown on Map 1 attached to that letter); and where post harvest attributes will be consistent with managed future habitat area as per GWM 5 in this order. Once harvested, the block area will be managed as LTOHA;
- f) Tamihi Logging block SK4516 and associated road construction: in Silverhope Creek, located within WHA 2-496, where up to 24.4 ha can be harvested (as per Tamihi draft map dated July 19, 2010), and where post harvest attributes will be consistent with managed future habitat area as per GWM 5 in this order. After harvest the block area will be managed as LTOHA; and
- g) Tamihi Logging blocks in Karen Creek (unnamed) and associated road construction: located within WHA 2-498, where up to 44.4 ha can be harvested in several small blocks (maximum size 10 ha each) as jointly agreed between Tamihi Logging and Ministry of Natural Resource Operations in January 2011; and where post harvest attributes in all blocks will be consistent with managed future habitat area as per GWM 5 in this order. After harvest the block areas will be managed as LTOHA.

3. 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 right-of-way is required.

4. GWM1 does not apply where timber harvesting within LTOHA is designed to enhance or create spotted owl habitat if:

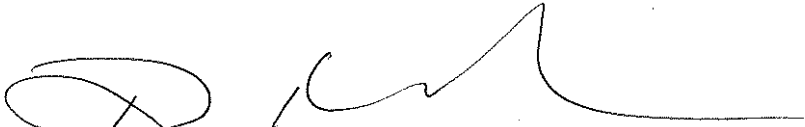
- a) timber harvesting results in a net benefit to spotted owl habitat;
- b) timber harvesting occurs outside of nest and critical roost site reserves;
- c) no greater than 40% of the stand basal area within the TAUP is harvested; of the stand basal area removed within the treatment area:
  - i. a minimum of 50% of the basal area is harvested as single stems or as small groups of trees that result in canopy gaps  $\leq 50$  square meters;
  - 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 meters;
- d) in drier ecosystems a minimum average of 275 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 trees  $> 30$ cm dbh;
- e) in wetter ecosystems a minimum average of 225 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 trees  $> 50$  cm dbh;

- f) an average density of 100 large-diameter trees/ha are retained across the treatment area where large-diameter tree retention densities per hectare may vary between 50 and 150 trees/ha as follows:
    - i. in non-uniform forest stands, retained large-diameter trees are selected from the largest diameter 150 trees per hectare;
    - ii. in uniform forest stands, retained large-diameter trees are selected from the dominant and co-dominant canopy layer; and
    - iii. at least 10 large wildlife trees/ha, if present, are retained among the 100 largest diameter trees/ha;
  - g) a minimum 10% of the TAUP is retained as untreated wildlife tree retention areas; and
  - h) all pre-harvest coarse woody debris is retained, and post-harvest non-merchantable large coarse woody debris is recruited.
5. GWM 1 does not apply to timber harvesting within WHA areas designated as Managed Future Habitat Areas (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 wildlife tree retention areas;
  - c) in drier ecosystems, a minimum average of 40 large-diameter trees/ha are retained across the TAUP as follows:
    - i. in non-uniform forest stands the large diameter trees are selected for retention from the diameter classes representing the 80 largest-diameter live trees/ha;
    - ii. in uniform forest stands the large-diameter trees are selected for retention 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 trees/ha are retained across the TAUP as follows:
    - i. in non-uniform forest stands the large-diameter trees are selected for retention from the diameter classes representing the 30 largest-diameter live trees/ha;
    - ii. in uniform forest stands the large-diameter trees are selected for retention 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 wildlife tree retention areas and other reserves; and
    - v. large-diameter trees are retained as single trees or groups of trees within the TAUP;
  - e) post-harvest non-merchantable 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 meters/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 meters/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 meters/ha, towards the GWM 5 (e) ii requirement; and
  - f) early successional conifer species that are ecologically suitable for the site are planted with consideration for variable density planting.
6. 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.
7. 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 5(a) through (e).

*Pesticides*

8. 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 1 day of March, 2011  
Doug Konkin, Deputy Minister  
Ministry of Natural Resource Operations

## Appendix 1:

The following information is provided by the Ministry of Natural Resource Operations (MNRO) and Ministry of Environment (MoE) as background information and support to the order establishing Spotted Owl WHAs 2-494 to 2-510. This appendix is not part of the order.

1. These GWMs do not apply to persons that must comply with the *Worker's 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.
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 MNRO 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 Ministry of Natural Resource Operations.

5. For the definition of large wildlife trees (as used in GWM 4(f)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 and creating additional spotted owl habitats or enhancing habitat 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. For GWM 2 (d), an agreement for mitigation harvesting at Ford Mountain and Post Creek was reached between Tamihi Logging and MNRO on January 27, 2011 where up to 142.4 ha may be harvested in 13 blocks. Most of the cutblocks have been engineered and mapped (see January 25/11 map), but it is recognized that there may be very minor amendments to these cutblock designs. A Table (dated January 27/11) referencing the mitigation plan also forms part of the agreement.
9. For GWM 2(f), it is understood that the Tamihi Logging block at Silverhope Creek is not yet engineered, and that the final design will not be the same as shown on the July 19, 2010 map; however the final block boundaries should reasonably lie within the draft map. In the event that road cannot be built to this 24.4 ha block in Silverhope Creek due to terrain stability restrictions, as assessed by a qualified professional, an equivalent area will be found in Karen Creek as jointly agreed between Tamihi Logging and Ministry of Natural Resource Operations in January 2011. This possibility is built into GWM 2(g) where the maximum allowable harvest at Karen Creek is recognized as up to 44.4 ha. This area is meant to address 2 separate agreements: 1) up to 20 ha in small cutblocks averaging about 5 ha each, which can proceed irrespective of Silverhope Creek; and 2) up to 24.4 ha in other small cutblocks which can only

proceed if terrain stability prohibits the Silverhope Creek block. If the second agreement is exercised the maximum opening size in Karen Creek is not to exceed 10 ha/block.

10. For GWM 2 exemptions specific to Tamihi Logging, an agreement to finalize mitigation was reached in January 2011, subject to First Nations consultation in respect of the blocks. If First Nations concerns preclude a mitigation block from going forward, it is agreed that alternate areas will be considered by way of normal FPPR section 92 exemptions.
11. The intent of GWM 4(b), 5(a), 6(a) and 7(a) is that *Forest Act* agreement holders contact the MNRO 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 must provide that information to the Director, Resource Management, South Coast. It must be noted that since these sites represent a 'sensitive occurrence' (masked by the BC Conservation Data Center (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 Conservation Data Centre) before the location will be provided. There are times when the information won't 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.
12. In GWM 4(f)(i) and (ii), and 5(c)(i) and (ii), and 5(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).
13. In GWM 4(d), 4(e), 5(c) and 5(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, co-dominant, 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 is expected and acceptable since it will help create wildlife trees and coarse woody debris.
14. The intent of GWM 4 (h) is that pre-harvest coarse woody debris is retained on site as distributed across the treatment area. Coarse woody debris piled at roadside or landings has limited ecological value.

15. The intent of GWM 5 (c)(iii) and (d)(iii) is that if worker safety concerns prevent attaining the maximum tree spacing requirement of 80m, then an alternate approach is implemented to achieve the intent of the GWM. Operators should document the safety issue and how the intent of the GWM was achieved.
16. The intent of GWM 5 (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 non-merchantable 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 of the Best Management Practices document.
17. The intent of GWM 6 (b) is that offsets to the negative impacts of clearing road rights-of-way must be acceptable to the Director Resource Management, South Coast Region.
18. The intent of GWM 7 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 meters 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 meters of forest products) is not permitted in the LTOHA.
19. The Spotted Owl Management Plan 2 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.

20. 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 general wildlife measures established by this order.



*PART OF THE*



# **Appendix 2e**

**Wildlife: Grizzly Bear Order**



**ORDER – Wildlife Habitat Areas # 2-099, 2-100, 2-101, 2-102, 2-194**

The following order applies to the areas shown in the maps set out in the attached Schedules A and takes effect on the 17 day of MAR, 2005.


This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04) and section 7(3) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04).

The Deputy Minister of Water, Land and Air Protection orders that:

1. the wildlife habitat areas shown in the maps set out in the attached Schedules A (# 2-099, 2-100, 2-101, 2-102, 2-194) are established;
2. the wildlife habitat areas in the attached Schedules A are established for Grizzly bear (*Ursus arctos*);
3. the general wildlife measures outlined in Schedule 1 are established for the wildlife habitat areas in the attached Schedules A; and
4. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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* to the extent that wildlife habitat areas ~~2-097, 2-098~~, 2-099, 2-100, 2-101, 2-102, 2-194 addresses the amount included for Grizzly bear in the Notice for the Chilliwack Forest District.

**Schedule 1 – General Wildlife Measures**

1. *Access* – do not construct roads, trails, or landings unless an exemption is approved by the MWLAP Delegated Decision Maker.
2. *Harvesting and Silviculture* – no forestry practices should be carried out within the WHA unless an exemption is approved by the MWLAP Delegated Decision Maker. Activities should on be only to restore or enhance degraded habitat or to ensure windfirmness.
3. *Pesticides* – do not use pesticides unless an exemption is approved by the MWLAP Delegated Decision Maker.
4. *Range* – plan livestock grazing to maintain forage value for Grizzly Bears and minimize the potential for conflicts. Do not place livestock attractants within WHA. Incorporate management strategies in the range use plan to reduce contact and competition between livestock and Grizzly Bears. Consider salt placement, alternate water development, drift fencing, or altering periods of livestock use.

  
Signed this 17 day of MAR, 2005  
Gordon Macatee, Deputy Minister  
Ministry of Water, Land and Air Protection



**ORDER – Wildlife Habitat Areas # 2-109, 2-112, 2-114, 2-118, 2-119, 2-195, 2-196, 2-197, 2-198, 2-199, 2-201, 2-202, 2-203**

The following order applies to the areas shown in the maps set out in the attached Schedules A and takes effect on the 17 day of MAR, 2005.

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04) and section 7(3) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04).

The Deputy Minister of Water, Land and Air Protection orders that:

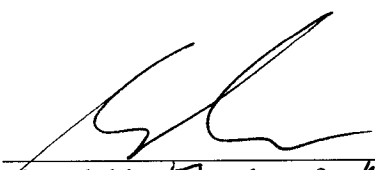
1. the wildlife habitat areas shown in the maps set out in the attached Schedules A (#2-109, 2-112, 2-114, 2-118, 2-119, 2-195, 2-196, 2-197, 2-198, 2-199, 2-201, 2-202, 2-203) are established;
2. the wildlife habitat areas in the attached Schedules A are established for Grizzly bear (*Ursus arctos*);
3. the general wildlife measures outlined in Schedule 1 are established for the wildlife habitat areas in the attached Schedules A; and
4. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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* to the extent that wildlife habitat areas 2-109, 2-112, 2-114, 2-118, 2-119, 2-195, 2-196, 2-197, 2-198, 2-199, 2-201, 2-202, 2-203 addresses the amount included for Grizzly bear in the Notice for the Chilliwack Forest District.

**Schedule 1 – General Wildlife Measures**

1. *Access*
  - Do not construct roads, trails, or landings unless an exemption is approved by the MWLAP Delegated Decision Maker.
    - **An exemption to allow road construction through WHA 2-199 will be accommodated to address any overlap with engineered road right-of-way upon receipt of engineered road layout and design maps. The forest tenure holder must be aware that this immediate area is seasonally important habitat for grizzly bears in the threatened North Cascades grizzly bear population unit and road access management is a concern. The tenure holder will make every effort to meet the objective for “Habitat Effectiveness at the Landscape Scale” in the approved North Cascades Grizzly Bear Recovery Plan.**
2. *Harvesting and Silviculture*
  - No forestry practices should be carried out within the WHA unless an exemption is approved by the MWLAP Delegated Decision Maker. Activities should only be only to restore or enhance degraded habitat or to ensure windfirmness.
3. *Pesticides*
  - Do not use pesticides unless an exemption is approved by the MWLAP Delegated Decision Maker.

4. *Range*

- Plan livestock grazing to maintain forage value for Grizzly Bears and minimize the potential for conflicts. Do not place livestock attractants within WHA. Incorporate management strategies in the range use plan to reduce contact and competition between livestock and Grizzly Bears. Consider salt placement, alternate water development, drift fencing, or altering periods of livestock use.



Signed this 17 day of MAR, 2005  
Gordon Macatee, Deputy Minister  
Ministry of Water, Land and Air Protection

**ORDER – Wildlife Habitat Areas**  
**2-097, 2-098, 2-105 to 2-107, 2-111, 2-113, 2-116, and 2-372 to 2-380**  
**Grizzly Bear – Chilliwack Forest District**

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 Deputy Minister of Environment, being satisfied that
  - i. the following area contains habitat that is necessary to meet the habitat requirements for Grizzly Bear (*Ursus arctos*);orders that
  - a) the areas shown in the map set out in the attached Schedule As (2-097 to 2-098, 2-372, 2-374 to 2-377, 2-379; 2-105 to 2-107, 2-111, 2-113, 2-116, 2-380; 2-373 and 2-378) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 2-097, 2-098, 2-105 to 2-107, 2-111, 2-113, 2-116, and 2-372 to 2-380 for Grizzly Bear. The centre point of the line on the attached Schedule As is what establishes the WHA boundary; and
  - b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule As and the WHA spatial layer stored in the Geographic Warehouse (*twha\_bc*), the areas as detailed in the WHA spatial layer will take precedent; and
2. The Deputy Minister of Environment, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect or conserve the habitat of Grizzly Bear ; 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 2-097, 2-098, 2-105 to 2-107, 2-111, 2-113, 2-116, and 2-372 to 2-380.
3. The general wildlife measures 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, the Mines Act, the Petroleum and Natural Gas Act, the Pipeline 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* (FRPA) and the regulations made under it, unless context indicates otherwise.

**incursion** means timber harvesting or road construction that is located within a wildlife habitat area boundary where no harvesting or road building is otherwise permitted to occur.

**productive forest area** means forest included as either contributing, partial contributing or non-contributing as per Timber Supply Review 2 planning

**regional manager** means the Ministry of Environment Regional Manager Environmental Stewardship, South Coast

**traditional and cultural activities** is as defined in the *Free Use Permit Regulation*.

## **Schedule 1 – General Wildlife Measures:**

### *Access, harvesting and silviculture*

1. Do not harvest timber or construct roads in the WHA.
2. Provided the Regional Manager is notified prior to commencement of activities, GWM 1 does not apply if:
  - a. future temporary road reconstruction is required through WHA 2-373 to access timber beyond the WHA;
  - b. future temporary road construction is required through WHA 2-111 to access timber outside the WHA;
  - c. future temporary road reconstruction of approximately 200m of Branch 11 of the Spuzzum FSR is required through the easternmost boundary of WHA 2-376 to access timber beyond the WHA;
  - d. future temporary road reconstruction of approximately 300m of the South Emory road is required through the westernmost south finger of WHA 2-377; or
  - e. aerial harvesting of BCTS cut-block "A56234 (ABCDF)" is required in WHA 2-116.
3. GWM 1 does not apply if:
  - a) timber harvesting within the WHA is necessary to create guyline tiebacks for timber harvesting provided trees that fall within the WHA boundary are retained on site to function as coarse woody debris; or
  - b) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit.

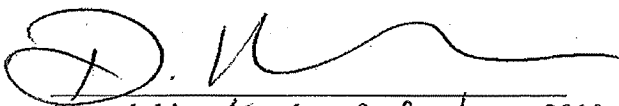
4. Where timber harvesting or road construction are planned immediately adjacent to any WHA with >30 ha productive forest area, GWM 1 or GWM 3 do not apply to the area of an incursion along the WHA boundary if:
- a. the incursion is required to provide for a logical harvesting boundary or a logical road or trail location that utilizes a physical feature or administrative boundary;
  - b. the area of the incursion, or multiple incursions cumulatively, do not exceed:
    - i. 1 ha of productive forest area in WHAs with >30 ha and ≤50 ha productive forest area; or
    - ii. 2 ha of productive forest area in WHAs with >50 ha to ≤100 ha productive forest area; or
    - iii. 3 ha or 1% of productive forest area, whichever is greater, in WHAs with >100 ha productive forest area;
  - c. the incursion exceeds 0.5 ha, and the area of the incursion is replaced with an equivalent or greater area of equal or better habitat contiguous to the WHA such that there is no net loss; and the incursion does not affect the intent or integrity of the WHA; and
  - d. the incursion as per GWM 4 a) or b), and any replacement habitat as per GWM 4 c) are provided to the Regional Manager (via ESRI shapefiles) prior to the commencement of primary forest activities associated with the incursion.

#### *Pesticides*

5. Do not use pesticides within the WHA, 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 to control invasive plants or noxious weeds.

#### *Recreation*

6. Do not develop recreational structures, trails, or facilities.

  
Signed this 16 day of Sept, 2010  
Doug Konkin, Deputy Minister  
Ministry of Environment

## **Appendix 1:**

The following information is provided by the Ministry of Environment (MoE) as background information and support to the order establishing WHAs 2-097, 2-098, 2-105 to 2-107, 2-111, 2-113, 2-116, and 2-372 to 2-380. This appendix is not part of the order.

**1. 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*.

2. 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 (Regional Manager for the region in which the order applies) with a rationale describing the nature of the problem and options to integrate WHA 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 made within 14 calendar days of arrival. 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>

3. For GWM 1, exemptions would only normally be considered to restore or enhance degraded habitat, as determined by the Regional Manager, or for roads where there are no other practicable options.
4. GWM 1 does not apply to road maintenance, road deactivation or brushing within the right-of-way on existing roads or trails in the WHA; provided these activities are carried out in a manner that will not affect the intent or integrity of the WHA.

5. For GWM 2: If reconstruction of the temporary road through WHA 2-373 occurs in the future an access control measure (e.g. gate) at the start of the road should be installed to prevent public access; and if the temporary road through WHA 2-111 is reconstructed the tenure holder should make every effort to meet the objective for "*Habitat Effectiveness at the Landscape Scale*" in the approved *North Cascades Grizzly Bear Recovery Plan*.
6. The intent of GWM 4 is to facilitate pre-authorized boundary exemptions for those WHAs with >30 ha productive forest area. Examples of incursions include a cut-block, road, trail or landing that overlaps a WHA boundary and: a) that the intent of the WHA boundary was to follow a creek/road and in some areas the boundary extends slightly beyond the creek/road due to a GIS mapping error and creates the overlap; or b) unintentional overlap occurs with an engineered primary forest activity that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000 often at final design stage); or c) *Forest Act* agreement holders can demonstrate that the block, road, trail or landing are located in a logical location and the incursion does not exceed the amount allowed.

In almost all instances the amount of incursion is anticipated to affect a small area. No replacement area is required when the discrepancy is: a) caused by GIS boundary mapping error since the intent of the WHA has not been altered; or b) the cumulative overlap is <0.5 ha. In other situations, the intended result is that where a boundary amendment is suggested by a *Forest Act* agreement holder and when the reduction is measurable ( $\geq 0.5$  and  $\leq 3$  ha or <1% measured cumulatively in any WHA), it will result in no net loss to habitat in the WHA. Delineation of equal or better Grizzly Bear habitat, in quantity and quality, will be required contiguous to the WHA. Any biological assessment to replace habitat should be conducted by a qualified professional with appropriate training and experience for the work being completed. If replacement habitat is required and equal or better habitat is not available contiguous to the WHA in question then the incursion cannot proceed under this GWM.

Boundary amendments meeting the conditions identified in GWM 4 will be periodically reviewed by MoE and the WHA boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 4 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

WHAs with <30 ha of productive forest area (i.e. WHA 2-374, 2-375, 2-378, 2-379), are excluded from GWM 4 (b)(i) because of potential adverse impacts to the small amount of security cover from an incursion. An exemption request for any incursions in these WHAs should be submitted to the Regional Manager, as per Appendix item #2 above.

It is acknowledged that there are no WHAs that fit GWM 4 (b)(i), however, this clause is retained to be consistent with other orders and the intent of this GWM.

In addition to reporting incursions to the Regional Manager prior to commencement of timber harvesting or road construction as per GWM 4 (d), it is the proponent's

responsibility to keep accurate records of each occurrence. Records must also be made available to a MoE or Ministry of Forests and Range official upon request.

7. Where roads in the WHA are temporary and no longer required, they should be permanently deactivated. Proponents must notify the Regional Manager when deactivation of temporary roads is complete.
8. Upon the approval of this order the Section 7 Notice for Grizzly Bear in the Chilliwack Forest District will be amended to provide the area and amount of THLB remaining for Grizzly Bear WHAs in the Chilliwack Forest District.

**ORDER – WILDLIFE HABITAT AREAS**

**2-407 to 2-434**

**Grizzly Bear – Chilliwack Forest District**

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 Deputy Minister of Natural Resource Operations, being satisfied that
  - i. the following area contains habitat that is necessary to meet the habitat requirements for Grizzly Bear (*Ursus arctos*);orders that
  - a) the areas shown in the map set out in the attached Schedule A (2-407 to 2-434) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 2-407 to 2-434 for Grizzly Bear. The centre point of the line on the attached Schedule A is what establishes the WHA boundary;
  - 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; and
  - c) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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 Grizzly Bear in the Chilliwack Forest District.
2. The Deputy Minister of Natural Resource Operations, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the habitat of Grizzly Bear; 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 2-407 to 2-434.
3. The general wildlife measures 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* (FRPA) and the regulations made under it, unless context indicates otherwise.

**incursion** means new timber harvesting or road construction that is located within a wildlife habitat area boundary where no harvesting or road building is otherwise permitted to occur.

**productive forest area** means forest included as either contributing, partial contributing or non-contributing as per Timber Supply Review 2 planning

**director** means the Director, Resource Management, South Coast Region of the Ministry of Natural Resource Operations

**traditional and cultural activities** is as defined in the *Free Use Permit Regulation*.

**Schedule 1 – General Wildlife Measures:*****Access, harvesting and silviculture***

1. Do not harvest timber or construct roads in the WHA.
2. Provided the Director is notified prior to the commencement of activities, GWM 1 does not apply if future road reconstruction and road extension is required through WHA 2-429 to access timber beyond the WHA.
3. GWM 1 does not apply if:
  - a) timber harvesting within the WHA is necessary to create guyline tiebacks for timber harvesting associated with landings/cutblocks adjacent to the WHA boundary, provided trees that fall within the WHA boundary are retained on-site to function as coarse woody debris; or
  - b) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit.
4. Where timber harvesting or road construction are planned immediately adjacent to any WHA with >30 ha productive forest area, GWM 1 does not apply to the area of an incursion along the WHA boundary if:
  - a) the incursion is required to provide for a logical harvesting boundary or a logical road or trail location that utilizes a physical feature or administrative boundary;
  - b) the area of the incursion, or multiple incursions cumulatively, do not exceed:
    - i. 1 ha of productive forest area in WHAs with >30 ha and ≤50 ha productive forest area; or


- ii. 2 ha of productive forest area in WHAs with >50 ha to ≤100 ha productive forest area; or
- iii. 3 ha or 1% of productive forest area, whichever is greater, in WHAs with >100 ha productive forest area;
- c) the incursion exceeds 0.5 ha, and the area of the incursion is replaced with an equivalent or greater area of equal or better habitat contiguous to the WHA such that there is no net loss; and the incursion does not affect the intent or integrity of the WHA; and
- d) the incursion as per GWM 4 a) or b), and any replacement habitat as per GWM 4 c) are provided to the Director (via ESRI shape files) prior to the commencement of primary forest activities associated with the incursion.

#### *Pesticides*

- 5. Do not use pesticides in the WHA, 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 to control invasive plants or noxious weeds.

#### *Recreation*

- 6. Do not develop recreational structures, trails, or facilities.

  
Signed this 8 day of March, 2011  
Doug Konkin, Deputy Minister  
Ministry of Natural Resource Operations

## Appendix 1:

The following information is provided by the Ministry of Natural Resource Operations and Ministry of Environment (MoE) as background information and support to the order establishing WHAs 2-407 to 2-434. This appendix is not part of the order.

### 1. **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* (FPPR).

### 2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR, 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 WHA 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 made within 14 calendar days of arrival. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at:

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

3. For GWM 1, exemptions would only normally be considered to restore or enhance degraded habitat, as determined by the Director, or for roads or trails where there are no other practicable options.
4. GWM 1 does not apply to road maintenance, road deactivation or brushing within the right-of-way on existing roads or trails in the WHA, provided these activities are carried out in a manner that will not affect the intent or integrity of the WHA.
5. The intent of GWM 4 is to facilitate pre-authorized boundary exemptions for those WHAs with >30 ha productive forest area provided that MOE is notified prior to the incursion taking place. Examples of incursions include a cut-block, road, trail or landing that overlaps a WHA boundary

and: a) that the intent of the WHA boundary was to follow a creek/road and in some areas the boundary extends slightly beyond the creek/road due to a GIS mapping error and creates the overlap; or b) unintentional overlap occurs with an engineered primary forest activity that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000 often at final design stage); or c) *Forest Act* agreement holders can demonstrate that the block, road, trail or landing are located in a logical location and the incursion does not exceed the amount allowed.

In almost all instances the amount of incursion is anticipated to affect a small area. No replacement area is required when the discrepancy is: a) caused by GIS boundary mapping error since the intent of the WHA has not been altered; or b) the cumulative overlap is <0.5 ha. In other situations, the intended result is that where a boundary amendment is suggested by a *Forest Act* agreement holder and when the reduction is measurable ( $\geq 0.5$  and  $\leq 3$  ha or <1% measured cumulatively in any WHA), it will result in no net loss to habitat in the WHA. Delineation of equal or better grizzly bear habitat, in quantity and quality, will be required contiguous to the WHA. Any biological assessment to replace habitat should be conducted by a qualified professional with appropriate training and experience for the work being completed. If replacement habitat is required and equal or better habitat is not available contiguous to the WHA in question then the incursion cannot proceed under this GWM.

Boundary amendments meeting the conditions identified in GWM 4 will be periodically reviewed by MoE and the WHA boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 4 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

WHAs with <30 ha of productive forest area (i.e. WHA 2-410, 2-411, 2-414, 2-418, 2-421, 2-425, 2-430), are excluded from GWM 4 (b)(i) because of potential adverse impacts to the small amount of security cover from an incursion. An exemption request for any incursions in these WHAs should be submitted to the Regional Manager, as outlined under section 2 in this Appendix.

In addition to reporting incursions to the Director prior to commencement of timber harvesting or road construction as per GWM 4 (d), it is the proponent's responsibility to keep accurate records of each occurrence. Records must also be made available to a MoE, Ministry of Forests, Mines & Lands or Ministry of Natural Resource Operations official upon request.

6. Where roads in the WHA are temporary and no longer required, they should be permanently deactivated. Proponents must notify the Director when deactivation of temporary roads is complete.
7. When reforesting areas within the WHA reduced stocking standards should be used as outlined in the document titled: *Grizzly Bear Habitat in Managed Forests - Silviculture Treatments to Meet Habitat and Timber Objectives*.
8. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling).



*PART OF THE*



## **Appendix 2f**

**Wildlife: Pacific (Coastal) Giant Salamander Order**



**ORDER – Wildlife Habitat Areas**

**# 2-120 to 2-128, 2-130 to 2-138, 2-148 and 2-149**

**Pacific Giant Salamander - Chilliwack Forest District**

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04).

The Deputy Minister of Environment orders that:

1. the wildlife habitat areas (WHAs) shown in the map set out in the attached Schedule A (2-120 to 2-128, 2-130 to 2-138, 2-148 to 2-149) and boundaries contained in the GIS file *twha\_bc* are established for Pacific Giant Salamander (also known as the Coastal Giant Salamander) (*Dicamptodon tenebrosus*);
2. the general wildlife measures outlined in Schedule 1, of this order, are established for the WHAs in the attached Schedule A and boundaries contained in the GIS file *twha\_bc*;
3. for the purposes of section 2(3)(a) of the *Government Actions Regulation*, these General Wildlife Measures apply to minor tenures;
4. where there is discrepancy between the WHA boundaries as shown in the attached Schedule A and the GIS file *twha\_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the WHA is what establishes the boundary; and
5. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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 Coastal Giant Salamander in the Notice for the Chilliwack Forest District.

## Schedule 1 – General Wildlife Measures

### *Access:*

- Do not construct roads, trails, landings or stream crossings in the WHA, except where an exemption has been granted under section 92(1) of the *Forest Planning and Practices Regulation*. An exemption is not required to construct road WL1000 through WHA 2-124.
- Where roads, trails, landings or stream crossings are authorized in the WHA, they should be temporary wherever possible and constructed with minimum road bed and right-of-way widths. During construction near streams, ensure that water quality is maintained by controlling erosion and sediment sources and prevent water diversion (e.g. re-vegetate exposed soil with native grasses).
- When no longer in use, roads, trails, landings or stream crossings should be deactivated using methods that minimize risk of water diversion, stream sedimentation and erosion.
- Ensure road maintenance activities, including activities to address safety concerns, use methods that minimize risk of water diversion, stream sedimentation and erosion.
- Where road construction options are present, whenever practicable construct roads downslope of WHAs. If constructed upslope, implement sediment and erosion control measures to maintain water quality, and prevent water diversion.
- Approved stream crossings must use open-bottom structures to ensure unimpeded upstream and downstream movement for salamanders (i.e. bridges or open-bottom culverts).

### *Harvesting:*

- Do not harvest in the core area of the WHA, except in the right-of-way, where road construction has been authorized.
- Within all riparian areas in the management zone, use partial harvesting systems that maintain 70% basal area, ensure the core area is wind firm and maintain forest structure and cover by retention of multi-layered canopy, snags and coarse woody debris.
- Within all upland areas in the management zone, ensure harvesting maintains shade and microclimatic conditions by retaining non-merchantable conifers and understory deciduous trees, shrubs, herbaceous vegetation, and at least 30% of merchantable trees. Retain wildlife trees where safe. Also maintain all coarse woody debris and ground structure (i.e. small mammal burrows, root channels, shrubs) to facilitate salamander dispersal between streams.
- Do not salvage timber anywhere within the WHA.
- Fall and yard away from all streams in the core area or riparian management zone. Retain those trees that cannot be safely felled away from streams as either part of the basal area retention percent or in wildlife tree patches.
- Remove slash and debris that inadvertently enters the stream, unless it will destabilize the bank or channel. Place slash and debris well above the high water mark in a stable manner.
- Avoid burning in the WHA, except debris piles on landings.
- Use equipment that minimizes ground disturbance (e.g. consider operating on frozen ground or using systems that require less road).

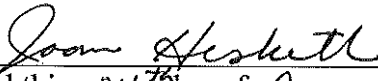
- If the WHA is overlapped by another WHA for a different species, ensure partial harvest strategy is coordinated between the general wildlife measures. The most conservative measure must apply to the overlapped area.

*Silviculture & Pesticides:*

- Use silviculture strategies that minimize ground disturbance.
- Do not use pesticides.

*Recreation:*

- Do not establish recreational sites, trails, facilities, or structures within the WHA.

  
Signed this 24<sup>th</sup> day of August, 2007  
Joan Hesketh, Deputy Minister  
Ministry of Environment

## **Appendix 1:**

The following information is intended to provide background information and support to the legal order establishing these WHAs. This appendix is not part of the legal order.

1. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. In instances where it is not practicable to comply with these measures, a person proposing to conduct forestry activities should consider seeking an exemption from the requirements to comply with the applicable General Wildlife Measures.
2. An exemption application should be submitted to the Minister's delegate (Regional Manager – Ministry of Environment, for the Region that the WHA is located) with a rationale describing the nature of the problem and options to integrate WHA conservation with proposed forest 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 made within 30 days of arrival. Incomplete packages will be returned to the proponent for resubmission.



**ORDER – WILDLIFE HABITAT AREAS 2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595,**  
**2-656 to 2-661 & 2-663 to 2-666**  
**Pacific Giant Salamander – Chilliwack Forest District**

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 delegated decision maker, being satisfied that the following area contains habitat that is necessary to meet the habitat requirements of a species at risk – Pacific Giant Salamander (*Dicamptodon tenebrosus*)  
orders that
  - a) the areas shown in the map set out in the attached Schedule A (2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595, 2-656 to 2-661 & 2-663 to 2-666) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595, 2-656 to 2-661 & 2-663 to 2-666 for Pacific Giant Salamander. 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 delegated decision maker, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the WHAs being established for Pacific Giant Salamander; 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 2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595, 2-656 to 2-661 & 2-663 to 2-666.

**Definitions:**

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

**Traditional and cultural activities** are as defined in the *Free Use Permit Regulation* of the *Forest Act*.

## **Schedule 1 – General Wildlife Measures:**

### *Access:*

- 1) Do not construct roads, trails, landings or stream crossings in the Core Area or Riparian Management Zone.
- 2) GWM 1 does not apply if:
  - a) road construction of road G and associated stream crossings are required through WHA 2-587 to access timber in cut block MP2B; or
  - b) road construction of branch BR724 and associated stream crossings are required through WHA 2-664 to access adjacent timber.
- 3) Do not construct roads, trails, landings, or stream crossings in the Upland Management Zone, unless no other practicable option exists:
  - a) where roads, trails or landings are determined necessary and are constructed in the Upland Management Zone, they are to be:
    - i) designed as temporary roads wherever practicable, and when temporary, deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow;
    - ii) constructed to result in minimum road bed and right-of-way clearing widths;
    - iii) designed to result in no sediment entering any nearby streams, which includes re-vegetating all exposed soils using native grasses; and
    - iv) designed to result in no diversion to water features from their natural source.
  - b) where stream crossings are determined necessary and are constructed in the Upland Management Zone, they are to be:
    - i) designed as temporary wherever practicable, and when temporary, deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow;
    - ii) designed as clear span or open bottom structures of sufficient size to result in no encroachment on the stream channel width and no potential to divert water from its natural source; and
    - iii) designed to result in no sediment, associated with the crossing structure, entering the stream, which includes re-vegetating all exposed soils using native grasses.

### *Harvesting:*

- 4) Do not harvest timber in the Core Area.
- 5) GWM 4 does not apply if:
  - a) timber harvesting occurs in block CV702 within WHA 2-594, and in block MP2B within WHA 2-587;
  - b) it is necessary to create guyline tiebacks (anchors or tailholds) in the Core Area for timber harvesting associated with landings/cut blocks outside the Core Area;
  - c) trees felled in accordance with GWM 5 (b) are retained on-site to function as coarse woody debris, unless the felled tree poses a forest health risk; or
  - d) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*.

- 6) For timber harvesting within the Riparian Management Zone:
  - a) use partial harvesting systems that result in maintaining at least 70% basal area;
  - b) partial harvesting is to be planned to result in windfirmness of the Core Area;
  - c) partial harvesting is to result in maintaining pre-harvest forest structure by retaining a multi-layered canopy, all safe snags/wildlife trees, and coarse woody debris;
  - d) GWM 6 a), b) and c) do not apply to harvesting in:
    - i) Block VE118 in WHA 2-660;
    - ii) Block CV702 in WHA 2-594; and
    - iii) Block MP2B in WHA 2-587.
- 7) For timber harvesting within the Upland Management Zone, ensure harvesting results in:
  - a) maintaining shade and microclimatic conditions by retaining at least 30% of basal area, and all safe non-merchantable conifers and understory deciduous trees, shrubs and herbaceous vegetation;
  - b) retaining all safe snags/wildlife trees;
  - c) falling and yarding away from streams wherever practicable; and
  - d) protecting all coarse woody debris and ground structure (i.e. small mammal burrows, root channels, shrubs) to facilitate Pacific Giant Salamander dispersal between streams.
- 8) Do not salvage timber within the WHA.
- 9) Fall and yard away from all streams in the Core Area and Riparian Management Zone. Retain those trees that cannot be safely felled away from streams as either part of the basal area retention or in wildlife tree patches.
- 10) Remove slash and debris that inadvertently enters a stream in the shortest time frame possible, and use removal methods that minimize stream bank and channel disturbance. Leave slash and debris that enters a stream only if removing it will destabilize the bank or stream channel. When slash and debris is removed, place it well above the high water mark in a safe and stable manner.
- 11) Do not broadcast burn in the Core Area and Riparian Management Zone. Burning debris piles on landings in the Upland Management Zone is permitted.

*Pesticides:*

- 12) Do not use pesticides, except for:
  - a) *Bacillus thuringiensis* var *kurstaki* for the control of western spruce budworm;
  - b) beetle pheromones for the control of bark beetles; or
  - c) herbicides to control invasive plants or noxious weeds, if applied by:
    - i) stem injection, cut and paint, foliar wipe or other direct plant application; or
    - ii) spot spraying individual plants or a cluster of plants if direct plant application is not practicable.



Signed this 21 day of August, 2017

Allan Johnsrude, Regional Executive Director

South Coast Natural Resource Region

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

## Appendix 1:

The following information is provided as background information and support to the Order establishing WHAs 2-580 to 2-587, 2-589 to 2-592, 2-594, 2-595, 2-656 to 2-661 & 2-663 to 2-666. This appendix is not part of the Order.

### 1. **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* (FPPR).

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR, 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 (FLNR, Director of Resource Management) with a rationale describing the nature of the problem and options to integrate Pacific Giant Salamander 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 made within 14 calendar days of arrival at the FLNR regional office. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at:

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

3. GWMs 1 and 3 do not apply to road or stream crossing maintenance, deactivation or brushing within the right-of-way on existing roads or stream crossings in the WHA. These activities should use methods that minimize risk of water diversion, stream sedimentation and erosion or slope failure. All work should be carried out in a manner that will not affect the intent or integrity of the WHA.
4. Regarding GWM 1, this access prohibition applies to the Core Area (30m wide) and Riparian Management Zone (20m wide). However, in situations where there is no other practicable option and it is determined that roads, trails, landings or stream crossings may be necessary they may be approved via exemption. The exemption conditions will usually state:

- a) that roads and stream crossings are to be temporary, except if required as mainline roads or bridges, and are to be designed and constructed with minimum road bed and right-of-way clearing widths;
  - b) that landings and trails are to be temporary;
  - c) during any design, construction, or maintenance activity near water features, ensure that water quality is maintained by avoiding slope failures, controlling erosion and sediment sources (e.g. revegetate exposed soil with native grasses), and prevent water diversion;
  - d) all roads, trails, landings or stream crossings, except mainline roads or mainline stream crossings, are to be deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow. Deactivation methods are to minimize risk of water diversion, slope failure, stream sedimentation and erosion; and
  - e) stream crossings, either temporary or permanent, must use open-bottom or clear span structures of sufficient size to ensure the structure does not encroach on the stream channel width, and maintains unimpeded upstream and downstream movement for Pacific Giant Salamander (i.e. use bridges of sufficient length or open-bottom culverts).
5. Specific to GWM 2, the expectations for these exempted roads and stream crossings is that they will be designed, constructed and managed wherever possible in keeping with the same conditions as those specified in Appendix clause #4 above.
6. In regards to exemptions provided in GWM 2, 5 and 6 for roads, stream crossings and/or cutblocks, the exemptions are based on maps or emails provided to FLNR as follows:
- a) For Ts'elxwéyeqw Tribe Management Limited Road G, stream crossings and block MP2B in WHA 2-587, the map referred to is dated May 26, 2015;
  - b) For BC Timber Sales block VE118 in WHA 2-660, the map referred to is dated October 1, 2015;
  - c) For Western Canadian Timber Products (WCTP) block CV702 in WHA 2-594, the map referred to is dated February 22, 2016;
  - d) For WCTP road BR724 and stream crossings in WHA 2-664, the map referred to is from an email dated August 11, 2016 (from Greg Peterson, WCTP to Greg George, FLNR). The road switchbacks off of the mainline, just east of and avoids, the WHA Core Area. In this situation, it has been determined by a qualified person that there is no other practicable option for the road location.
7. For block MP2B in WHA 2-587, it is understood that road G and the various stream crossings are temporary and will be deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow. Deactivation methods are to minimize risk of water diversion, slope failure, stream sedimentation and erosion.
8. The intent of GWMs 6 and 7 is to maintain sufficient forest structure in the two WHA Management Zones (i.e. riparian and upland) to sustain microclimate at the ground level, including temperature and moisture regime. This will provide suitable habitat conditions for connectivity and overland dispersal opportunity to Pacific Giant Salamanders, when moving through upland areas to nearby streams (maintaining dispersal habitat is described as a recovery goal in the provincial recovery strategy). Although Pacific Giant Salamanders are poor dispersers, it remains important to provide

dispersal opportunity for genetic exchange and population viability among BC salamanders since the BC population is known to be less genetically diverse than, and isolated from, populations in Washington State. To protect coarse woody debris and ground structure use equipment for harvesting and silviculture that minimizes ground disturbance or soil compaction (e.g. consider operating on frozen ground or using systems that require less skid road).

9. In regards to generally locating roads, trails or stream crossings, where options exist and wherever practicable, construct roads, trails or crossings downslope of WHAs. If constructed upslope, implement sediment and erosion (or slope failure) control measures to maintain water quality and prevent water diversion. Silt or sediment, if introduced, will fill-in cracks and crevices and reduce shelter between stream substrates that are required by Pacific Giant Salamander larvae.
10. In regards to accurately mapping WHA water features, it is acknowledged that accuracy is limited to that of the underlying map base (usually 1:20,000 TRIM). If a map error occurs between the projected map location of a stream or wetland and its actual on the ground location, the on-ground location takes precedence. Proponents that notice this map error are asked to submit the actual stream location to the Director of Resource Management, South Coast Natural Resource Region, FLNR (via ESRI shape files) so that the WHA boundary location can be corrected.
11. Proponents should notify the Director of Resource Management, South Coast Natural Resource Region, FLNR when deactivation of temporary/spur roads is complete.
12. Anyone required to implement this Order should also be aware of potential overlap between these WHAs and other Orders (mostly for Pacific Water Shrew, Tall Bugbane or Spotted Owl WHA; but also for UWR) and that there may be other GWMs that apply in each WHA. If this occurs, it will be important to follow the most conservative GWM for the overlapping area.
13. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling, 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 and keep it on file to be made available to a government official upon request. Consistent with section 2(3) of the FPPR, exemptions from these GWMs are not required to meet safety requirements.



*PART OF THE*



# **Appendix 2g**

**Wildlife: Pacific Water Shrew Order**



**ORDER – WILDLIFE HABITAT AREAS**  
**2-514, 2-515, 2-667 to 2-669**  
**Pacific Water Shrew – Chilliwack Forest District**

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 delegated decision maker, being satisfied that the following area contains habitat that is necessary to meet the habitat requirements of a species at risk – Pacific Water Shrew (*Sorex bendirii*) orders that
  - a) this Order cancels and replaces the Order associated with Wildlife Habitat Areas (WHA) 2-140, 2-144 and 2-147 for Pacific Water Shrew that became effective October 23, 2007 and is titled “Order – Wildlife Habitat Areas # 2-140, 2-144, 2-147 Pacific Water Shrew – Chilliwack Forest District”;
  - b) the areas shown in the map set out in the attached Schedule A (2-514, 2-515, 2-667 to 2-669) and contained in the WHA spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 2-514, 2-515, 2-667 to 2-669 for Pacific Water Shrew. The centre point of the line on the attached Schedule A is what establishes the WHAs; and
  - c) 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 delegated decision maker, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the WHAs being established for Pacific Water Shrew; 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 2-514, 2-515, 2-667 to 2-669.
3. Pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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 Pacific Water Shrew in the Notice for the Chilliwack Forest District.

**Definitions:**

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

**Traditional and cultural activities** are as defined in the *Free Use Permit Regulation* of the *Forest Act*.

## **Schedule 1 – General Wildlife Measures:**

### *Access:*

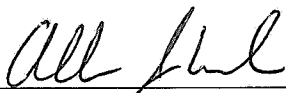
- 1) Do not construct roads, trails, landings or stream crossings in the WHA.
- 2) GWM 1 does not apply if:
  - a) road construction, road extension and/or stream crossings are required through WHA 2-515 to access timber beyond the WHA;
  - b) open bottom or clear span structures are used for all stream crossings related to roads referred to in GWM 2 (a); and road construction or stream crossings result in:
    - i) no introduced sediment to any watercourse;
    - ii) no erosion to any watercourse;
    - iii) no alteration of stream or wetland hydrology; and
    - iv) no destruction of functional habitat, wherever practicable.

### *Harvesting:*

- 3) Do not harvest timber in the WHA.
- 4) Do not salvage timber in the WHA.
- 5) GWM 3 does not apply if:
  - a) timber harvesting occurs in an area that is not currently functional habitat, and will not reasonably become functional habitat for Pacific Water Shrew;
  - b) timber harvesting occurs in the outer 10m of the WHA to result in better management of windthrow risk or forest health issues related to maintaining functional habitat in the remainder of the WHA;
  - c) it is necessary to create guyline tiebacks (anchors or tailholds) in the WHA for timber harvesting associated with landings/cut blocks outside the WHA;
  - d) trees felled in accordance with GWM 5 (c) are retained on-site to function as coarse woody debris, unless the felled tree poses a forest health risk; or
  - e) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*.

### *Pesticides:*

- 6) Do not use pesticides, except for:
  - a) *Bacillus thuringiensis* var *kurstaki* for the control of western spruce budworm;
  - b) beetle pheromones for the control of bark beetles; and
  - c) herbicides to control invasive plants or noxious weeds, if applied by:
    - i) stem injection, cut and paint, foliar wipe or other direct plant application; or
    - ii) spot spraying individual plants or a cluster of plants if direct plant application is not practicable.



Signed this 21 day of August, 2017

Allan Johnsrude, Regional Executive Director

South Coast Natural Resource Region

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

## Appendix 1:

The following information is provided as background information and support to the Order establishing WHAs 2-514, 2-515, 2-667 to 2-669. This appendix is not part of the Order.

1. **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* (FPPR).

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR, 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. In this situation, the delegated decision maker may also consider if the exemption affects critical habitat since the federal Recovery Strategy has been approved and the province is expected to demonstrate effective protection of that habitat.

An exemption application should be submitted to the Minister's delegate (FLNR, Director of Resource Management) with a rationale describing the nature of the problem and options to integrate Pacific Water Shrew 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 made within 14 calendar days of arrival at the FLNR regional office. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at:

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

3. Regarding parts of GWM 1, 3 and 5, the intent is to conserve habitat for Pacific Water Shrew that is or may become functional. However, as per GWM 5(a) it is possible that some small areas near the external WHA boundary are not functional habitat and will never function as Pacific Water Shrew habitat, and where this is determined by a qualified person, timber harvesting may occur. Further, as per GWM 5(b), it is possible that windthrow or forest health risk to functional habitat may be evaluated as significant enough to warrant windfirming techniques or tree removal to occur in the outer 10m of the WHA. A qualified person with the appropriate forest background and Pacific Water Shrew habitat expertise should make the determinations in GWM 5(a) & (b). A rationale to support the determination is to be kept on file and made available to a government official upon request.

4. Regarding GWM 1, where roads, trails, landings, or stream crossings may be necessary and are authorized in the WHA (via exemption or not covered by GWM 2) the following conditions should be expected:
  - a. that roads and stream crossings are to be temporary, except if required as mainline roads or bridges, and constructed with minimum road bed and right-of-way clearing widths;
  - b. that landings and trails are to be temporary;
  - c. during any design, construction, or maintenance activity near streams or wetlands, ensure that water quality and hydrology is maintained by controlling erosion and sediment sources (e.g. revegetate exposed soil with native grasses) and preventing water diversion;
  - d. all roads, trails, landings or stream crossings, except mainline roads or mainline stream crossings, are to be deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow. Deactivation methods are to minimize risk of water diversion, stream or wetland sedimentation and erosion;
  - e. stream crossings, either temporary or permanent, must use open-bottom or clear span structures of sufficient size to ensure the structure does not encroach on the stream channel width, and maintains unimpeded upstream and downstream movement for Pacific Water Shrew (i.e. bridges or open-bottom culverts); and
  - f. wherever practicable, approved activities will not result in destruction of functional habitat.
5. GWM 1 does not apply to road or stream crossing maintenance, deactivation or brushing within the right-of-way on existing roads or stream crossings in the WHA (note: permanently altered habitats, like road surfaces, are not considered to be critical or functional habitat). These activities should use methods that minimize risk of water diversion, stream or wetland sedimentation and erosion, and altering hydrology. All work should be carried out in a manner that will not affect the intent or integrity of functional habitat in the WHA.
6. It should be understood that the WHA boundary is 100m wide on each side of a water feature or 100m in width surrounding a wetland.
7. In regards to generally locating roads, trails or stream crossings, where options exist and wherever practicable, construct roads, trails or crossings downslope of WHAs. If constructed upslope, implement sediment and erosion control measures to maintain water quality and prevent water diversion such that functional habitat is not affected.
8. In regards to accurately mapping WHA water features, it is acknowledged that accuracy is limited to that of the underlying map base (usually TRIM at 1:20,000 scale). If a map error occurs between the projected map location of a stream or wetland and its actual on the ground location, the on-ground location takes precedence. Proponents that notice this mapping accuracy error (e.g. when mapping for forest activities purposes) are asked to submit the actual stream location to the Director of Resource Management, South Coast Natural Resource Region, FLNR (via ESRI shape files) so that the WHA boundary location can be corrected.
9. Proponents should notify the Director of Resource Management, South Coast Natural Resource Region, FLNR when deactivation of temporary/spur roads is complete.

10. Anyone required to implement this Order should also be aware of potential overlap between these WHAs and other Orders (mostly for Spotted Owl or Ungulate Winter Range) and that there may be other GWMs that apply in each WHA. If this occurs, it will be important to follow the most conservative GWM for the overlapping area.
11. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling, OH&S Regulation part 26). Where a GWM cannot be achieved due to a worker safety concern, a person should consider developing a rationale related to the safety issue and keep it on file to be made available to a government official upon request. Consistent with section 2(3) of the FPPR, exemptions from these GWMs are not required to meet safety requirements.



*PART OF THE*



# **Appendix 2h**

## **Wildlife: Tall Bugbane Orders**



## **ORDER – Wildlife Habitat Areas**

**# 2-129, 2-139, 2-141 to 2-143, 2-145 and 2-146**

### **Tall Bugbane - Chilliwack Forest District**

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/04).

The Deputy Minister of Environment orders that:

1. the wildlife habitat areas (WHA) shown in the map set out in the attached Schedule A (2-129, 2-139, 2-141 to 2-143, 2-145 to 2-146) and boundaries contained in the GIS file *twha\_bc* are established, for Tall Bugbane (*Actaea elata*);
2. the general wildlife measures outlined in Schedule 1, of this order, are established for the WHAs in the attached Schedule A and boundaries contained in the GIS file *twha\_bc*;
3. for the purposes of section 2(3)(a) of the *Government Actions Regulation*, these General Wildlife Measures apply to minor tenures;
4. where there is discrepancy between the WHA boundaries as shown in the attached Schedule A and the GIS file *twha\_bc*, the boundaries as detailed in the GIS file will take precedent. The centre point of the line on the map denoting the WHA is what establishes the boundary; and
5. pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted 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 Tall Bugbane in the Notice for the Chilliwack Forest District.

### **Schedule 1 – General Wildlife Measures**

#### ***Access:***

- Do not construct roads, trails, landings or stream crossings in the core area or management zone of the WHA, particularly upslope of the population. Exemptions would only normally be considered for construction of roads, trails, landings or stream crossings in the management zone.
- Where roads, trails, landings or stream or stream crossings are determined to be necessary in the management zone of the WHA they should be temporary wherever possible.
- Where roads already exist or are determined necessary within the WHA, ensure road maintenance/deactivation practices do not damage or kill plants (e.g. do not mow or grade over roadside plants). Use methods to prevent spread of invasive species while not damaging native species.

- Wherever practicable, minimize damage to plants near the road edge when road maintenance is required to address safety concerns.

*Harvesting:*

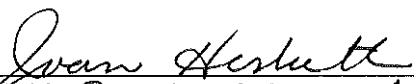
- Do not harvest, including salvage, within core area of the WHA.
- Use partial harvesting systems in the management zone that maintain at least 60% basal stem area. Remove up to 40% basal stem area in small openings ranging in size up to 0.5 ha. Small openings should be distributed throughout the management zone to maintain dispersal opportunity.
- When harvesting in the management zone, retain *Acer* species, particularly *Acer macrophyllum*. Retain at least 20-30% from inventory distribution.
- Do not salvage in the management zone unless it can be done without disturbing important structural elements (e.g. *Acer* species) or ecological conditions.
- If the WHA is overlapped by another WHA for a different species, ensure partial harvest strategy is coordinated between the general wildlife measures. The most conservative measure must apply to the overlapped area.

*Silviculture & Pesticides:*

- Activities to establish a free growing stand within the management zone will result in representation of deciduous species, specifically *Acer* species, in the free growing stand.
- Do not use pesticides.

*Recreation:*

- Do not develop recreational sites, trails, facilities, or structures within the WHA.

  
Signed this 24 day of August, 2007  
Joan Hesketh, Deputy Minister  
Ministry of Environment

## Appendix 1:

The following information is intended to provide background information and support to the legal order establishing these WHAs. This appendix is not part of the legal order.

1. Authority to consider an exemption from these general wildlife measures is provided in Section 92(1) of the *Forest Planning and Practices Regulation*. In instances where it is not practicable to comply with these measures, a person proposing to conduct forestry activities should consider seeking an exemption from the requirements to comply with the applicable General Wildlife Measures.
2. An exemption application should be submitted to the Minister's delegate (Regional Manager – Ministry of Environment, for the Region that the WHA is located) with a rationale describing the nature of the problem and options to integrate WHA conservation with proposed forest 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 made within 30 days of arrival. Incomplete packages will be returned to the proponent for resubmission.
3. Where existing forest recreation trails are located within the WHA, consider rerouting trails to outside the WHA.



**ORDER – WILDLIFE HABITAT AREAS 2-567 to 2-579, 2-670**  
**Tall bugbane – Chilliwack Forest District**

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 delegated decision maker, being satisfied that the following area contains habitat that is necessary to meet the habitat requirements of a species at risk – tall bugbane (*Actaea elata* var. *elata*) orders that
  - a) this Order cancels Wildlife Habitat Areas (WHA) 2-139, 2-141 and 2-146 for tall bugbane that became effective in the Order dated October 23, 2007 titled “Order – Wildlife Habitat Areas # 2-129, 2-139, 2-141 to 2-143, 2-145 and 2-146 Tall Bugbane – Chilliwack Forest District”, and replaces them with WHA 2-571 as described in 1 (b) directly below;
  - b) the areas shown in the map set out in the attached Schedule A (2-567 to 2-579 and 2-670) and contained in the WHA spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_WILDLIFE\_HABITAT\_AREA\_POLY) are established as wildlife habitat areas 2-567 to 2-579 and 2-670 for tall bugbane. The centre point of the line on the attached Schedule A is what establishes the WHAs; and
  - c) 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 delegated decision maker, being satisfied that
  - i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the WHAs being established for tall bugbane; 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 2-567 to 2-579 and 2-670.

**Definitions:**

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

**Traditional and cultural activities** are as defined in the *Free Use Permit Regulation* of the *Forest Act*.

## **Schedule 1 – General Wildlife Measures:**

### *Access:*

1. Do not construct roads, trails, landings or stream crossings in the Core Area.
2. Do not construct roads, trails, landings or stream crossings in the Management Zone, unless there is no other practicable option.

### *Harvesting:*

3. Do not harvest timber, including salvage, in the Core Area.
4. GWM 3 does not apply if:
  - a) it is necessary to create guyline tiebacks (anchors or tailholds) in the Core Area for timber harvesting associated with landings/cut blocks outside the Core Area;
  - b) trees felled in accordance with GWM 4 (a) are retained on-site to function as coarse woody debris, unless the felled tree poses a forest health risk; or
  - c) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*.
5. Timber harvesting within the Management Zone will:
  - a) use partial harvesting to result in small canopy gaps up to 0.5 ha that retain at least 60% basal area; and will distribute the small gaps/openings throughout the Management Zone to provide opportunity for tall bugbane plant dispersal;
  - b) retain 20-30% of pre-harvest *Acer* species, particularly *Acer macrophyllum*;
  - c) retain, where safe, all non-merchantable trees and all understory deciduous trees and shrubs; and
  - d) use partial harvesting to result in windfirmness to the Core Area.
6. GWM 5 does not apply to BC Timber Sales Block VE118 (2 units) and Block VE119 in WHA 2-571.
7. Do not salvage timber within the Management Zone, unless it can be conducted without disturbing or damaging:
  - a) *Acer* species;
  - b) pre-harvest light conditions; and
  - c) pre-harvest soil moisture conditions.
8. Fall and yard away from Core Area. Retain those trees that cannot be safely felled away from Core Area as either part of the basal area retention or in wildlife tree patches.

### *Pesticides and Silviculture*

9. Do not use pesticides, except for:
  - a) *Bacillus thuringiensis* var *kurstaki* for the control of western spruce budworm;
  - b) beetle pheromones for the control of bark beetles; and
  - c) herbicides to control invasive plants or noxious weeds, if applied by:
    - i. stem injection, cut and paint, foliar wipe or other direct plant application; or

- ii. spot spraying individual plants or a cluster of plants if direct plant application is not practicable; with no direct application to tall bugbane.

10. Activities to establish a free growing stand within the Management Zone will result in representation of *Acer* species.



Signed this 21 day of August, 2017

Allan Johnsrude, Regional Executive Director

South Coast Natural Resource Region

Ministry of Forests, Lands, Natural Resource Operations & Rural Development

## Appendix 1:

The following information is provided as background information and support to the Order establishing WHAs 2-567 to 2-579 and 2-670. This appendix is not part of the Order.

1. **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* (FPPR).

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR, 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. In this situation, the delegated decision maker may also consider if the exemption affects critical habitat since the federal Recovery Strategy has been approved and the province is expected to demonstrate effective protection of that habitat.

An exemption application should be submitted to the Minister's delegate (FLNR, Director of Resource Management) with a rationale describing the nature of the problem and options to integrate tall bugbane 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 made within 14 calendar days of arrival at the FLNR regional office. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at: <http://www.env.gov.bc.ca/wld/frpa/index.html>

3. WHAs are designed to include a 50m Core Area surrounding the plant population, and usually a 150m to 200m Management Zone located outside of the Core Area. In a few cases, the shape of the Management Zone has been altered (skewed) to reduce timber impact by overlapping with another constraint, or to follow a logical boundary.
4. In respect of possible road or stream crossing exemptions from GWM 1, exemptions that may be granted will usually include conditions such as:

- a) roads and stream crossings are to be temporary, except if required as mainline roads or bridges, and are to be designed and constructed with minimum road bed and right-of-way clearing widths;
  - b) landings and trails are to be temporary;
  - c) during any design, construction, or maintenance activity near tall bugbane populations, ensure that activities do not damage or kill plants or negatively affect functional habitat; and
  - d) all roads, trails, landings or stream crossings, except mainline roads or mainline stream crossings, are to be deactivated within one year after regeneration date if practicable; or otherwise within one year after the last silviculture treatment performed to achieve free to grow. Deactivation methods are to minimize risk of damage to tall bugbane plants.
5. In regards to generally locating roads or stream crossings adjacent to a WHA, where location options exist, construct roads, trails or crossings downslope of WHAs. If constructed upslope, ensure activities will not damage or kill tall bugbane plants (e.g. by side-casting road material downslope into the WHA).
  6. GWM 1 does not apply to road or stream crossing maintenance, deactivation or brushing within the right-of-way on existing roads or stream crossings in the WHA. These activities should use methods that do not damage or kill tall bugbane plants (e.g. do not mow or grade over roadside plants); and use methods to prevent spread of invasive species (e.g. seed with native species). All work should be carried out in a manner that will not affect the intent or integrity of the WHA.
  7. For GWM 6 as it pertains to BC Timber Sales Blocks VE118 (2 units) and VE119, the cut block designs are as per the map dated October 1, 2015.
  8. The intent of GWMs 5, 7 & 8 is to maintain sufficient forest structure and microclimatic conditions in the WHA Management Zone to safeguard the Core Area and provide dispersal opportunity to tall bugbane.
  9. Anyone required to implement this Order should also be aware of potential overlap between these WHAs and other Orders (mostly for Pacific water shrew, Pacific giant salamander or Spotted Owl) and that there may be other GWMs that apply in each WHA. If this occurs, it will be important to follow the most conservative GWM for the overlapping area.
  10. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling, 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 and keep it on file. Consistent with section 2(3) of the FPPR, exemptions from these GWMs are not required to meet safety requirements.



*PART OF THE*



# Appendix 2i

**Wildlife: Northern Goshawk Proposed Wildlife Habitat Areas**



July 14, 2021

File: 36460-30/DCK

**VIA EMAIL**

To: *Forest Act* agreement holders

**Re: Wildlife Habitat Area proposals to protect breeding habitat for Northern Goshawk (*Accipiter gentilis laingi*) in the Chilliwack Forest District (WHA 2-696 to 2-697)**

I am writing to advise you of the commencement of a formal review and comment period for two proposed Wildlife Habitat Areas (WHAs) for Northern Goshawk (*Accipiter gentilis laingi*) (hereafter NOGO) in the Chilliwack Forest District (DCK). This designation is proposed by the British Columbia (BC) Ministry of Forests, Lands, Natural Resource Operations & Rural Development (FLNRORD), under authority of the *Forest and Range Practices Act* (FRPA) and the *Oil and Gas Activities Act* (OGAA). FLNRORD is able to establish WHAs under both the *Government Actions Regulation* (GAR) in FRPA and *Environmental Protection Management Regulation* (EPMR) in OGAA. You have been identified as a *Forest Act* agreement holder that may be affected by the Order establishing these WHAs.

The proposed WHAs encompass approximately 556.5 ha total area in the DCK and are located on Crown land. The proposed WHAs are necessary to protect important breeding habitat for NOGO, which was assessed as “Threatened” in 2013 by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and is listed on Schedule 1 of the federal *Species at Risk Act*. The cabinet approved provincial [NOGO Implementation Plan](#) (IP) was released in February, 2018 and represents the provincial management commitment for the species. The establishment of these WHAs for NOGO breeding habitat is consistent with the goals and objectives of the IP.

WHA designations under the GAR are managed according to specific management practices, known as general wildlife measures (GWMs). General wildlife measures regulate forest management practices partially or entirely within a WHA. GWMs may also be established to regulate range activities, but are not necessary in this case. GWMs proposed for this WHA are similar to GWMs previously established for NOGO WHAs elsewhere in coastal BC. Draft GWMs are listed in Appendix 1.

WHA designations under the EPMR are considered by the BC Oil and Gas Commission (OGC) among the suite of Government’s Environmental Objectives (GEOs) when adjudicating oil and gas activity permits. The GEOs guide the OGC in making determinations on permit applications and for permit conditions. Following the designation of a WHA, the OGC must consider whether or not oil and gas activities will have a material adverse effect on the ability of the wildlife habitat within the WHA to provide for the survival of the wildlife species for which the WHA was established.

According to the IP, 53 additional NOGO breeding areas must be protected in the South Coast Conservation Region to meet the provincial home range target for the species. The two proposed WHAs completely overlap Spotted Owl (*Strix occidentalis*) WHAs established as long-term owl habitat areas. As such, there is no anticipated impact of the proposed WHAs on the timber harvesting landbase (THLB). Nevertheless, these new WHAs are proposed to spatially define the NOGO breeding areas on the landbase and implement management practices specifically for the species. It is important to note that because these NOGO WHAs are located entirely within existing constrained areas, they do not contribute to reducing the breeding area protection gap identified in the IP.

Overview maps, digital shapefiles, and supporting information for the proposed WHAs are available at the FTP site address below.

<ftp://ftp.for.gov.bc.ca/DCK/external/!publish/WHA/Northern%20Goshawk/>

Prior to making a final determination for the establishment of these WHAs, FLNRORD is committed to meeting several regulatory tests set out in GAR (see Appendix 2). In each case, the decision maker must be satisfied that the applicable GAR test has been met. There are no similar tests under EPMR, but there is a notice and consultation requirement.

It is the intent of FLNRORD, through the consultation and review process specified in GAR Section 3, to elicit information from affected *Forest Act* agreement holders that will assist the decision maker when deliberating the tests outlined in GAR Section 2(1)(c). Specifically, we are requesting that you provide the following information in writing following your review:

- 1) If and how these WHAs will have a material adverse impact on your delivered wood cost.
- 2) If and how these WHAs will cause undue constraint on your ability to exercise your rights under your *Forest Act* agreement.

Please also provide comments in writing, expressing your support for these WHA proposals (i.e., unconditional, conditional, or none) within 40 days from the date of this letter. If you do not support these designations, please include the reason in your response. If FLNRORD is made aware that the Order may have a material adverse effect on your delivered wood costs or cause undue constraint on timber harvesting rights, then a consultation period will occur with the intent of addressing these concerns.

I can be reached by email at [Daniel.Guertin@gov.bc.ca](mailto:Daniel.Guertin@gov.bc.ca) (preferred) or phone (778-572-2157) to discuss these proposed WHAs. If I do not hear back from you by August 23, 2021, I will assume you have no concerns and the proposed WHAs will be moved forward towards a determination.

Thank you for your attention to this matter.

Sincerely,



Daniel Guertin, MSc, RP Bio

Sr. Wildlife Biologist

Ministry of Forests, Lands, Natural Resource Operations & Rural Development

South Coast Natural Resource Region

## **Appendix 1. Proposed General Wildlife Measures (GWMs)**

### *Access*

- a) Do not construct roads, trails, landings or stream crossings in the WHA.

### *Harvesting*

- b) Do not conduct timber harvesting or salvage harvesting in the WHA.
- c) Felling of single trees for the purposes of removing danger trees, installing guy-line anchors, or tail-holds trees is permitted when required to address worker safety.
- d) Trees felled within a WHA must be retained on-site to provide coarse woody debris, unless the felled tree lies outside of the WHA. The portion that falls on the road, landing or outside the WHA boundary can be harvested.

### *Silviculture*

- e) No silvicultural treatments except those required in legacy blocks to establish a free growing stand as per Section 29(2) of the Forest and Range Practices Act.

### *Pesticides*

- f) Pesticide must only be applied to plant species prescribed as invasive plants under the Invasive Plants Regulation (FRPA)
- g) Pesticide application must be by selective application in a manner that does not result in drift to non-target species.

## **Appendix 2. Government Actions Regulation (GAR) Tests**

*Section 9(2)(a):* This section allows GWMs to be established if the decision maker is satisfied that the measure is necessary to protect or conserve the WHAs. Within the WHAs, proposed GWMs will describe management practices that are necessary to maintain a level of management appropriate for the conservation of this species at risk. The proposed GWMs are supported by the best available science. Since Northern Goshawk breeding success is largely dependent on coastal mature coniferous forests, and timber harvesting in those forests would eliminate the suitable nesting habitat, that activity is prohibited by the GWMs. Similarly, road construction is prohibited since it results in direct loss of habitat, and can fragment suitable breeding areas, increase access for nest predators that frequent edge environments, increase human disturbance, and increase hard edge effect (e.g., increase windthrow potential, change canopy microclimates). Use of pesticides is prohibited as a precautionary measure to avoid habitat modifications that might attract nest predators.

*Section 9(2)(b):* This section enables GWMs to be established if the decision maker is satisfied that FRPA or another enactment does not otherwise provide for that protection or conservation. While other regulations or enactments may deliver some protection of the proposed WHAs, those restrictions are not specific to Northern Goshawk and there is no certainty that the mechanism will provide ongoing protection.

*Section 10(1):* This section allows for WHAs to be established if the decision maker is satisfied that the area is necessary to meet the habitat requirements of the species at risk. These WHAs are necessary to protect the breeding habitat requirements of Northern Goshawk. It is widely accepted that forest harvesting and road building that result in loss and fragmentation of nesting and foraging habitats is the primary threat to the species. In the South Coast Conservation Region, the long-term recovery goal of the provincial Implementation Plan and the federal Recovery Strategy is to protect 110 breeding areas, with a short-term goal of protecting 30 new breeding areas by 2020. The proposed WHAs will protect suitable breeding habitat that was verified through field surveys of known nest sites and confirmed to be recently occupied. These measures are intended to meet expectations outlined in the federal Recovery Strategy for Northern Goshawk and enable the province to demonstrate tangible progress in meeting its' obligations to effectively protect critical habitat under the federal *Species at Risk Act*.



*PART OF THE*



# **Appendix 2j**

**Wildlife: Mountain Beaver Order**



File MWLAP: 135-60/MIWG

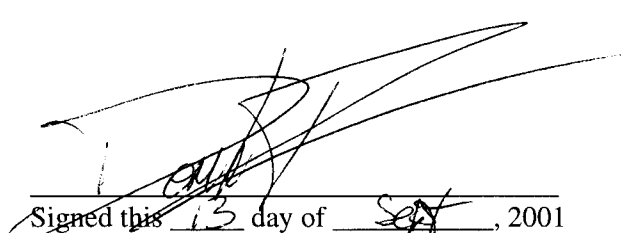
x.r. 36460/30/2-012

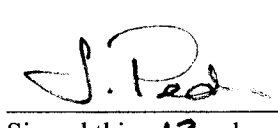
File MOF: 12210-40/FPCODEMIWILDLIFE

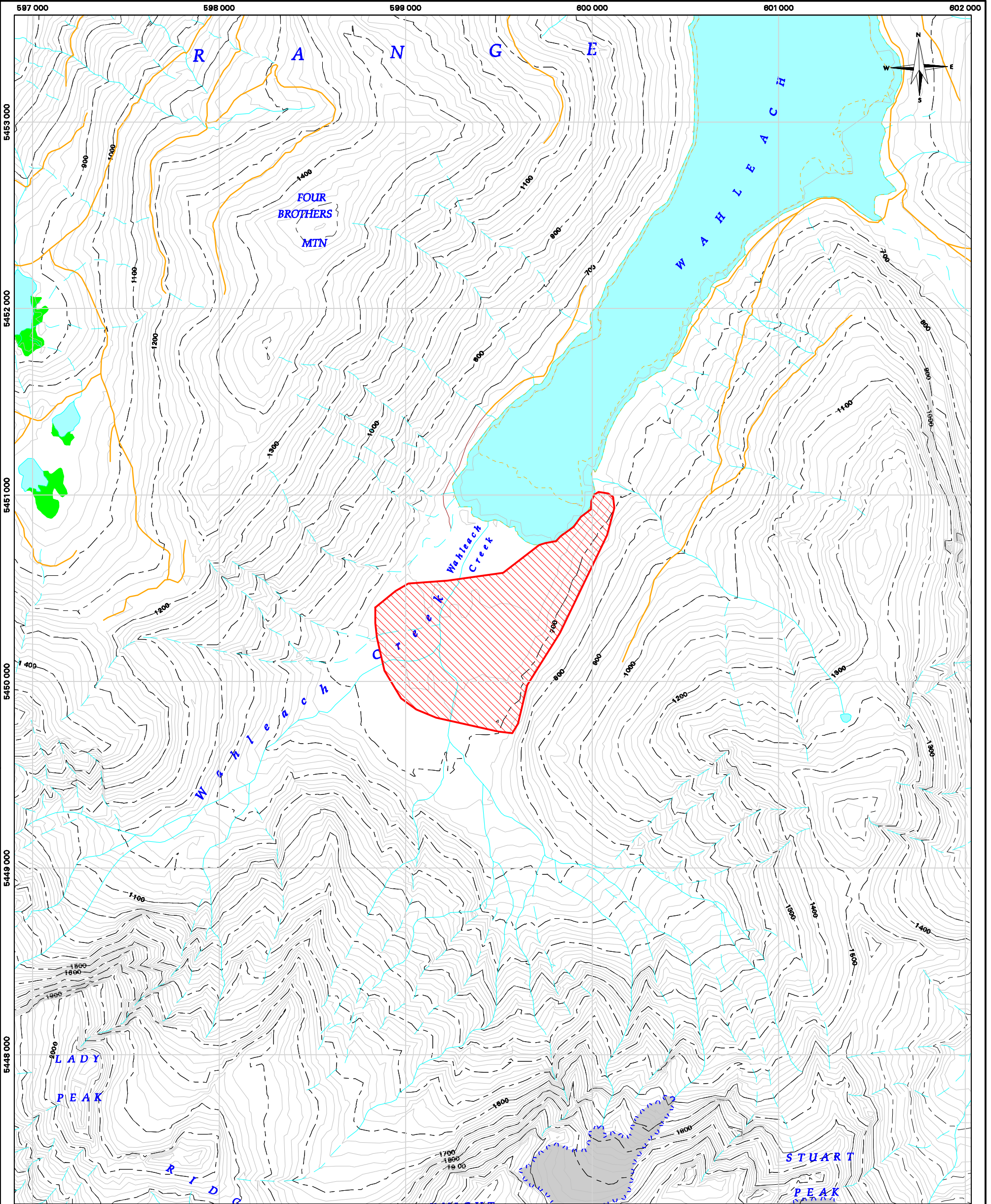
**ORDER – WILDLIFE HABITAT AREA # 2- 012**

On being satisfied that the establishment of the wildlife habitat area dealt with in this order is necessary to meet the habitat requirements of the identified wildlife, and that the general wildlife measures dealt with in this order are necessary to maintain the identified wildlife within those areas, and under the authority of section 70 (1) (b) and (c), (2), (4), and (5) of the Operational Planning Regulation, B.C. Reg. 107/98, the Deputy Minister of Water, Land and Air Protection and the Chief Forester, acting jointly, order that

- 1 the wildlife habitat area shown in the map set out in the attached Schedule A (#2-012) is established;
- 2 the wildlife habitat area referred to in section 1 is approved for Mountain beaver (*Aplodontia rufa*); and
- 3 the general wildlife measures referred to in Order No. 1 – General Wildlife Measures, dated March 3, 1999 for Mountain beaver (*Aplodontia rufa*) apply to this wildlife habitat area.

  
Signed this 13 day of Sept, 2001  
Derek Thompson, Deputy Minister  
Ministry of Water, Land and Air Protection

  
Signed this 13 day of Sept, 2001  
Larry Pedersen, Chief Forester  
Ministry of Forests

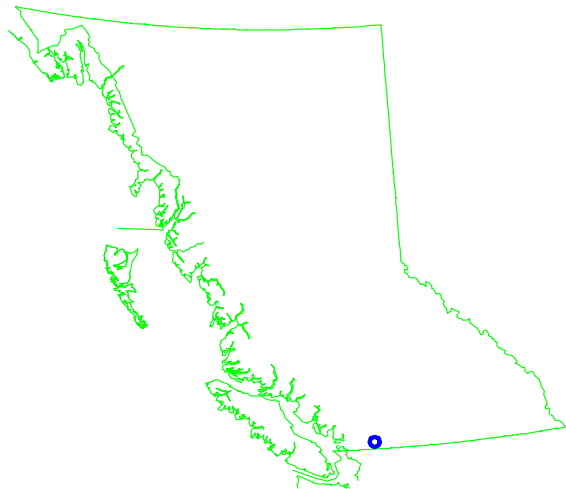


# **Schedule A Wildlife Habitat Area WHA Number 2-012**

Core area 79 ha

## **Legend**

- |                                  |                                |
|----------------------------------|--------------------------------|
| Road - Main                      | River/Stream - Indefinite      |
| Road (Gravel Undivided) - 1 Lane | Contour - Index                |
| Road (Unimproved)                | Contour - Intermediate         |
| Road - Paved lanes 2 Undivided   | Wildlife Habitat Area - Buffer |
| Rail Line (Single Track)         | Wildlife Habitat Area - Core   |
| River/Stream - Definite          | Marsh                          |
| River/Stream - Dry               | Swamp                          |



Scale 1:20000

0 200 400 600 800 1000 meters

For more information contact  
Identified Wildlife Management Strategy  
Wildlife Branch, Research and Conservation Department  
Ministry of Environment Lands and Parks  
250-356-7789

Map Produced by the  
BC Conservation Data Centre  
August 07, 2001

**BC**  
Environment

Contour Interval 20 m  
Projection UTM Zone 10  
Datum NAD 83



*PART OF THE*



## **Appendix 2k**

**Wildlife: Marbled Murrelet Draft MAMU Order and Draft MAMU Notice**

## **Marbled Murrelet Order**



**Ministry of Forests, Lands, Natural Resource Operations and Rural Development**

**Ministerial Order**

**Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*)**

**Preamble**

It is the goal of the Province, through land use objectives and other measures, to implement management of Marbled Murrelet (MAMU) nesting habitat on provincial Crown land to support viable populations of Marbled Murrelets across their range in B.C.

This Ministerial Order represents a statutory decision under the *Land Act* to implement a priority Action identified in the *Implementation Plan for the Recovery of Marbled Murrelet (Brachyramphus marmoratus) in British Columbia*. In addition, the Land Use Objectives Regulation requires an appropriate balance of social, economic and environmental benefits.

The purpose of this order, in relation to the maintenance of suitable marbled murrelet nesting habitat (hereafter suitable habitat) is to: 1) ensure the availability of suitable habitat meets or exceeds minimum habitat thresholds established for provincial Crown land for the West and North Vancouver Island and the Southern Mainland Coast Conservation Regions; and 2) retain 100% of the remaining suitable habitat on provincial Crown land in the East Vancouver Island Conservation Region. Provisions in the order are in place in the East Vancouver Island Conservation Region to avoid isolating and preventing access to natural resources and address safety concerns.

Minimum habitat thresholds are established for landscape unit portions and landscape unit aggregates. These thresholds influence how much suitable habitat will be maintained at those spatial scales and how suitable habitat is to be maintained and distributed across Crown land. The amount of suitable habitat must meet or exceed landscape unit portion and landscape unit aggregate minimum habitat thresholds. Landscape unit aggregates are located within the same Natural Resource District and Conservation Region; therefore, minimum habitat thresholds at the Natural Resource District and Conservation Region scales are achieved without the need to set objectives at those scales. To increase management flexibility in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions suitable habitat targets are established for landscape unit portions which, combined, equal the minimum habitat threshold for the landscape unit aggregate they are located in. There is flexibility to deviate from the landscape unit portion suitable habitat targets as long as landscape unit portion and landscape unit aggregate minimum habitat thresholds are achieved.

This intent of this order is to meet the aspatial habitat management commitments outlined in the Implementation Plan. Separate and complementary measures outside the scope of this order will be implemented to meet spatial habitat management commitments through the establishment of Wildlife Habitat Areas under the *Forest and Range Practices Act* and Old Growth Management Areas under the *Land Act* so at least 80% of the minimum habitat thresholds for the West and North Vancouver Island and Southern Mainland Coast Conservation Regions are spatially mapped and protected.

Significant effort has been made to improve the accuracy of the suitable habitat mapping. It is anticipated that habitat mapping improvements will continue and support an update to this order five years in the future to be consistent with the best available information. The implementation of this Order will be monitored, and if results indicate objectives are not being met, this order may be reviewed and amended. This preamble is provided for context and background and does not form part of the order.

## 1. Relationship with *Forest and Range Practices Act* Objectives

- (1) Pursuant to section 93.4 of the *Land Act*, the objectives set out in paragraph 3 of this order are established as land use objectives for the purposes of the *Forest and Range Practices Act* and apply to the Crown land in the landscape unit portions and landscape unit aggregates shown on Schedule 1 attached to this order.
- (2) Nothing in, under or arising out of this order abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nations and does not relieve the Province of any obligation to consult with any applicable First Nation.

## 2. Definitions

- (1) In this order:
  - a. The objectives set out in paragraph 3 of this order apply to the mapped polygons of marbled murrelet nesting habitat (Suitable Habitat) shown on Schedules 2 to 6 attached to this order.
  - b. Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act*, the *Forest Act*, the *Range Act* and the regulations made under those Acts, unless the context indicates otherwise.
  - c. Where an objective refers to an area shown on a Schedule and the area is also defined by a spatial dataset, the boundaries of the area as defined by the spatial dataset apply in the event of any inconsistency. A complete list of spatial datasets is contained in:  
<ftp://ftp.for.gov.bc.ca/RCO/external/!publish/MAMU/>.

## 3. Objectives for Marbled Murrelet nesting habitat

- (1) Maintain Suitable Habitat as follows:
  - (a) For each:  
landscape unit aggregate in the order area:  
Retain all timber in an amount equal to or greater than the minimum habitat threshold listed in Column “A” in Table 1 in Schedule “7”.
  - (b) For each:  
landscape unit portion in the order area:  
Retain all timber in an amount equal to or greater than the suitable habitat target listed in Column “A” in Table 2 in Schedule “7”;
- (2) Despite subsection (1)(b), the amount of timber that must be retained within a landscape unit portion in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions may be less than the suitable habitat target listed in Column “A” in Table 2 in Schedule “7”, provided that:  
The amount of timber retained is equal to or greater than the minimum habitat threshold listed in Column “B” in Table 2 in Schedule “7”.
- (3) Despite subsection (1)(a), Suitable Habitat polygons shown in Schedule “1 to 6” in the East Vancouver Island Conservation Region may be harvested, provided that harvesting is required for road access, other infrastructure, or to address safety concerns, where there is no practicable alternative.

(4) Variance from the Objectives in Sections 3.(1) to 3.(3) for the Suitable Habitat polygons shown in Schedule “1 to 6” may be allowed, provided that:

(a) A Qualified Professional:

- (i) Completes a field assessment that identifies the characteristics of Suitable Habitat using established standards; and
- (ii) Confirms the alteration will result in no net loss or functional loss of Suitable Habitat.

(b) A Regional Ministry of Forests, Lands, Natural Resource Operations and Rural Development biologist approves the alteration of the Suitable Habitat polygons.

- 4. This Order takes effect on the day that notice of this Order is published in the Gazette.
- 5. Pursuant to section 8(2)(b) of the *Forest and Range Practices Act*, an approved forest stewardship plan in the Order area must be amended to be consistent with this order within 6 months from the effective date of this Order.

---

Craig Sutherland  
Assistant Deputy Minister, Coast Region  
Ministry of Forests, Lands, Natural  
Resource Operations and Rural Development

---

Date

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT  
REQUIRED FOR THE SURVIVAL OF Marbled Murrelet (*Brachyramphus marmoratus*)**

This notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and section 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

This notice rescinds the following paragraphs for Marbled Murrelet (*Brachyramphus marmoratus*) in Schedule 1 of the following section 7(2) and section 9(3) notices:

- Paragraph 2, December 30, 2004 notice for the South Island Forest District
- Paragraph 2, July 27, 2004 notice for the Campbell River Forest District
- Paragraph 3, March 2, 2006 notice for the North Island Central Coast Forest District
- Paragraph 1, March 2, 2006 notice for the Sunshine Coast Forest District
- Paragraph 1, December 30, 2004 notice for the Squamish Forest District

The notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Suitable habitat within approved Wildlife Habitat Areas is included in the indicators of the amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This notice applies to the South Island Forest District, Campbell River Forest District, North Island Central Coast Forest District, Chilliwack Forest District, Squamish Forest District, Sunshine Coast Forest District and Chilcotin Forest District.

Pursuant to section 7(4) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04) and 9(4) of the *Woodlot Planning and Practices Regulation* (B.C. Reg. 21/04) of the *Forest and Range Practices Act*, an approved forest stewardship plan or woodlot licence plan must be amended to be consistent with this notice within 6 months from the effective date of this notice.

**SCHEDULE 1**

**1) Marbled Murrelet (*Brachyramphus marmoratus*)**

***Amount:***

1. Table 1 provides the minimum amount of Marbled Murrelet nesting habitat (Suitable Habitat) to be maintained within both Marbled Murrelet Wildlife Habitat Areas (WHAs) and Old Growth Management Areas (OGMAs) combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within Forest Districts.

**Distribution:**

1. Table 2 provides the minimum amount of Suitable Habitat to be maintained within both Marbled Murrelet WHAs and OGMAs combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within landscape unit aggregates.

2. Table 3 provides the target and minimum amount of Suitable Habitat to be maintained within both Marbled Murrelet WHAs and OGMAs combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within landscape unit portions.

**Attributes: Species: Marbled Murrelet**

Attribute	Characteristics
Size	Maintain a balanced range of patch sizes including a mix of large (>200 ha), medium (50-200 ha) and small (<50 ha) patches. Minimum patch sizes for Marbled Murrelet WHAs depend on what is available but are generally >20 ha.
Suitable Habitat	Suitable Habitat is Low Level Aerial Survey (LLAS) class 1-3 habitat and, where LLAS are not available, the BC Model.
Nesting Habitat Features	Old seral stage coniferous forests providing large trees with mossy platforms (limbs or deformities >15 cm diameter) with variable canopy structure and small canopy gaps.
Tree Size	Most nesting trees are typically >40 m tall. Nest heights are typically >30 m.
Structural Stage	7: Old Forest <sup>1</sup> (>250 years - age class 9, but age class 8 is acceptable if stands provide nesting habitat features).

<sup>1</sup> <http://www.env.gov.bc.ca/wld/documents/identified/App05-Interim.pdf>

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Signed this

\_\_\_\_\_ day of \_\_\_\_\_, 2020

Sharon Hadway,  
Regional Executive Director  
West Coast Region

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

---

Signed this

\_\_\_\_\_ day of \_\_\_\_\_, 2020

Allan Johnsrude,  
Regional Executive Director  
South Coast Region

---

Signed this

\_\_\_\_\_ day of \_\_\_\_\_, 2020

Michael Pedersen,  
Regional Executive Director  
Cariboo Region



*PART OF THE*



# **Appendix 3**

## **Community Watersheds**

### Community Watersheds Applicable to Teal Cedar Products Ltd.'s Forest Stewardship Plan

Watershed Code	Watershed Name	Watershed Area (ha)	Date Designated
100.019	Gurney Community Watershed	3847.7	June 15, 1995
100.011	Deroche Community Watershed	716.9	June 15, 1995
100.035	Norrish Community Watershed	7,876.5	June 15, 1995
110.104	Elbow Community Watershed	878.4	June 15, 1995
110.001	Cohen Community Watershed	59.8	June 15, 1995
110.006	Domitian Creek Community Watershed	169.4	May 14, 2004
100.106	Ichilaka Community Watershed	117.0	June 15, 1995
100.029	Kopp Community Watershed	36.2	June 15, 1995
100.006	Centre Community Watershed	177.6	June 15, 1995
100.012	Drachmann Community Watershed	26.9	June 15, 1995
100.022	Hallisey Community Watershed	74.2	June 15, 1995
100.098	Choate Community Watershed	34.6	June 15, 1995
100.107	Inkawthia Community Watershed	1517.1	June 15, 1995
100.112	Skeemis Community Watershed	252.4	June 15, 1995
100.008	Coutlie Community Watershed	121.6	June 15, 1995
100.036	One & One Quarter Community Watershed	87.1	June 15, 1995
100.023	Jamieson Community Watershed	530.8	June 15, 1995
100.114	Stoyoma Community Watershed	4071.0	June 15, 1995
100.115	Two Mile Community Watershed	60.2	June 15, 1995
100.113	Stormy Community Watershed	4.9	June 15, 1995
100.102	Edna Community Watershed	15.0	June 15, 1995
110.003	Sasquatch Community Watershed	23.3	June 15, 1995
110.004	Thunderbird Community Watershed	118.2	June 15, 1995
100.054	Yale Community Watershed	3734.2	June 15, 1995
100.040	Pickney Community Watershed	39.3	June 15, 1995
100.124	Schkam Lake Community Watershed	260.2	May 14, 2004
100.034	Nevin Community Watershed	579.4	June 15, 1995
970.002	Trite Community Watershed	121.3	June 15, 1995



*PART OF THE*



# **Appendix 4**

## **Visual Quality Objectives**



Distribution: JACQUES MARC, Provincial Landscape Specialist, FPB, VICTORIA KEVIN LEE, RVA KLANGDALE, DCAMPBELL, LLEROUX

Document name: \\FSDCK-R1\root\Personal\RSEXSMIT\WPDOCS\TEMP\MGMT\review scenic areas oct 99.doc  
RS

CONTACT: Len Leroux

Date typed: 99/10/15 Date revised: 99/10/15 01:44 pm

File: 16290-01  
19500-01

October 1, 1999

All Licensees  
in the Chilliwack Forest District

Dear Sir or Madam:

The intent of this letter is to clarify licensees obligations regarding scenic area management within the Chilliwack Forest District.

According to Section 1 of the *Operational Planning Regulations* (OPR) "Scenic Areas" are identified through a Visual Landscape Inventory (VLI) or specific planning process. In the absence of higher level plans, the Chilliwack Forest District will use its VLI to identify "Scenic Areas".

Further to the above, Section 1 of the OPR requires that scenic areas be identified and made known at least four months prior to a Forest Development Plan (FDP) submission.

The known scenic areas within the boundaries of the Chilliwack Forest District are the viewsheds associated with:

- Highway 1 - TransCanada
- Highway 3 - Hope-Princeton
- Highway 5 - Coquihalla
- Highway 7 - Lougheed
- Highway 9 - Agassiz-Rosedale



.../2

Ministry of  
Forests

Chilliwack Forest District

Location:  
9880 South McGrath Road  
Rosedale

Mailing Address:  
PO Box 159  
Rosedale V0X 1X0

Tel: 604-794-2100  
Fax: 604-794-2111

- Highway 11 - Abbotsford-Mission
- Alouette Lake
- Pitt Lake
- Stave Lake as far north as Cypress Point
- Chehalis Lake
- Jones Lake
- Harrison Lake
- Nahatlatch drainage as far east as Mehatl drainage
- Chilliwack Lake Road
- Areas that attract people should be given special consideration. This includes, but is not limited to, local communities, meeting places, parks, sport facilities, shopping malls, rest stops and tourist attractions.

Chilliwack Forest District recently updated its Visual Landscape Inventory to Resource Inventory Committee (RIC) standards. This update included the development of recommended Visual Quality Classes for the *known* scenic areas. The requirements for managing known scenic areas without established VQOs under the Code are as follows:

Proposed Category A cutblocks in scenic areas in a FDP must specify measures that will be carried out to protect forest resources, which include scenic values. (Forest Practices Code Act (FPC) Section 10(1)(c)(ii)). Therefore, a Category A proposed cutblock within a scenic area must be identified on the Mapsheet Cutblock Summary of the FDP as requiring a visual assessment. Recommended visual quality classes (rVQC's), while not legally binding under the FPC, provide an indication of the level of activity that would be acceptable to manage and conserve visual values in known scenic areas.


In order to be satisfied that proposed cut-blocks will adequately manage and conserve the visual resource, I am requesting that visual assessment packages be submitted to this office in support of all Silviculture Prescriptions submitted for cut blocks in *known* scenic areas. However, visual assessment packages must accompany the FDP submissions when the proposed alteration (cut block(s)) approaches or exceeds the alteration percent, in perspective view, for the recommended Visual Quality Class for the viewshed. Reference (FPC Act Section 41(2)).

The content of a visual assessment package will vary depending on the visual sensitivity class, recommended VQC and visual concern for the area. A visual simulation is the preferred method

to confirm that the visual values are being adequately managed and conserved. Acceptable methods include, but are not limited to, sketching, photo manipulation, computer simulation, Digital Terrain Modelling, video imaging or hybrid simulations. In general, high sensitive viewsheds will require the more intensive simulation modelling. The design of the proposed block(s) must consider the visual lines of force present in the landscape, the prescribed percent alteration guidelines for the rVQC and the basic definition for the rVQC.

Please ensure this information reaches the appropriate personnel. Copies of the inventory maps and information are available from the IRM Section of the Chilliwack District Office. If you have any questions or concerns, please contact Ken Langdale, Recreation Supervisor, at 794-2100.

Yours truly,

  
G. L. (Jerry) Kennah, RPF  
District Manager  
Chilliwack Forest District



Distribution: Gene Macinnes, Operations Manager; Douglas Campbell, Tenures Officer, Lloyd Davies, Regional Landscape Forester; Jacques Marc, Provincial Landscape Forester;  
Document name: G:\Workgrp\Stewardship\Visual\Licensee Letter GARs17\_Oct05.doc LS  
Contact: Lucy Stad  
Date typed: 2005/10/11 Date last saved: 2005/10/17 1:53 pm

File: 16290-01  
19500-09

October 17, 2005

All Forest Licensees, Timber Licensees and Woodlot Licensees

Dear Sir/Madam:

**Re: Continuation of existing Visual Quality Classes as Visual Quality Objectives under the *Forest and Range Practices Act (FRPA)*.**

The purpose of this letter is to clarify visual management in the Chilliwack Forest District under FRPA. Some important changes have occurred and to assist with your planning activities, I will specify the relevant sections of FRPA and its regulations that apply to scenic areas and visual quality objectives.

Scenic areas were previously made known and established under the *Forest Practices Code of British Columbia (FPC)*. The scenic areas were described in a letter signed by the District Manager on October 1, 1999 and are continued under FRPA section 180. Copies of the letter are available on the web at [http://www.for.gov.bc.ca/dck/lim/dck\\_fsp.html](http://www.for.gov.bc.ca/dck/lim/dck_fsp.html). Scroll down to Visual Landscape Inventory.

Visual Quality Objectives (VQO) can be established or carried forward in various ways under FRPA. I have reviewed the scenarios available and have concluded that the applicable circumstance for the Chilliwack Forest District is to continue the existing recommended Visual Quality Classes (rVQC) into VQOs under the *Government Actions Regulation (GAR)*, section 17.

In GAR section 17, a visual quality class (VQC) is continued as a visual quality objective if the VQC has been set out before October 24, 2002 in a letter from the district manager to forest licensees and the VQC were in existence when the regulation came into force.



Page 1 of 2

Ministry of  
Forests

Chilliwack Forest District

Location:  
46360 Airport Road, Chilliwack

Mailing Address:  
46360 Airport Road  
Chilliwack, BC V2P 1A5

Tel: (604) 702-5700  
Fax: (604) 702-5711  
Toll Free: 1-800-663-7867

Sir/Madam,

I have concluded that the above conditions were met based on the following reasons:

- The District Manager's letter of October 1, 1999 states the requirements for managing scenic areas under the FPC. The rVQC categories were developed and used to determine the acceptable level of activity to manage and conserve the visual values in known scenic areas.
- Since the October 1, 1999 letter, the rVQCs have been used by licensees in their operational plan development by following the district's *Standard Operating Procedures for Visual Resource Management*. It is clear that the statutory decision maker considered the rVQCs in his decisions for visual management of the Forest Development Plans.

Given the above reasons, I have concluded that it is appropriate to manage the visual resource in the Chilliwack Forest District under the *Government Actions Regulation, section 17*.

When developing your Forest Stewardship Plan (FSP), you are required to identify the scenic areas and to specify results or strategies for the visual objective set under GAR, section 17. Results or strategies for visual objectives can be certified by a qualified professional.

Visual management has changed under FRPA with an emphasis on approved results or strategies in FSPs. We will monitor the implementation of these changes on your operations and on the visual resource. When necessary, scenic area boundaries and established VQOs can be amended under the Government Actions Regulation (GAR).

For your use, I have attached the recently released FRPA Bulletin "Managing Visual Resources". It addresses the recent changes in visual management. If you would like to discuss any of the above items, please contact Lucy Stad or Jack Sweeten, Stewardship Foresters.

Yours truly,



Kerry Grozier,  
District Manager

Attachment: FRPA General Bulletin #9 "Managing Visual Resources"



File: 10285-30/Fraser TSA

Date: April 12, 2013

**Order to revise the Visual Quality Objectives and Scenic Areas within the Fraser Timber Supply Area**

Pursuant to Section 7 (1) and (2) of the Government Actions Regulation (GAR), the following revised Visual Quality Objectives and Scenic Areas are established within the Fraser Timber Supply Area, Chilliwack District, as shown on the map, dated January 31, 2013.



This order and the visual quality objectives in this order take effect on the date the notice of this order is published in the Gazette.

Allan Johnsrude, RPF  
District Manager  
Chilliwack District



*PART OF THE*



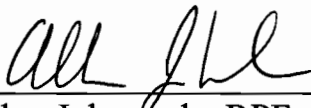
# **Appendix 5**

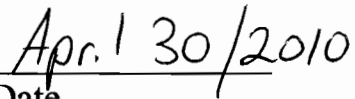
**Karst Resource Feature Order**

**ORDER TO IDENTIFY KARST RESOURCE FEATURES  
IN THE  
CHILLIWACK FOREST DISTRICT**

Pursuant to Section 5 of the *Government Actions Regulation* (GAR) of the *Forest and Range Practises Act*, I hereby identify the following surface or subsurface elements of a karst system as resource features wherever they are found within the area shown on the Karst GAR Order map dated April 28, 2010 in the Chilliwack Forest District. This Order is effective as of June 1, 2010.

- Karst caves
- The important features and elements within very high or high vulnerability karst terrain
- Significant surface karst features

  
Allan Johnsrude, RPF  
District Manager  
Chilliwack Forest District

  
Date



Province of  
British Columbia  
Ministry of  
Forests and Range



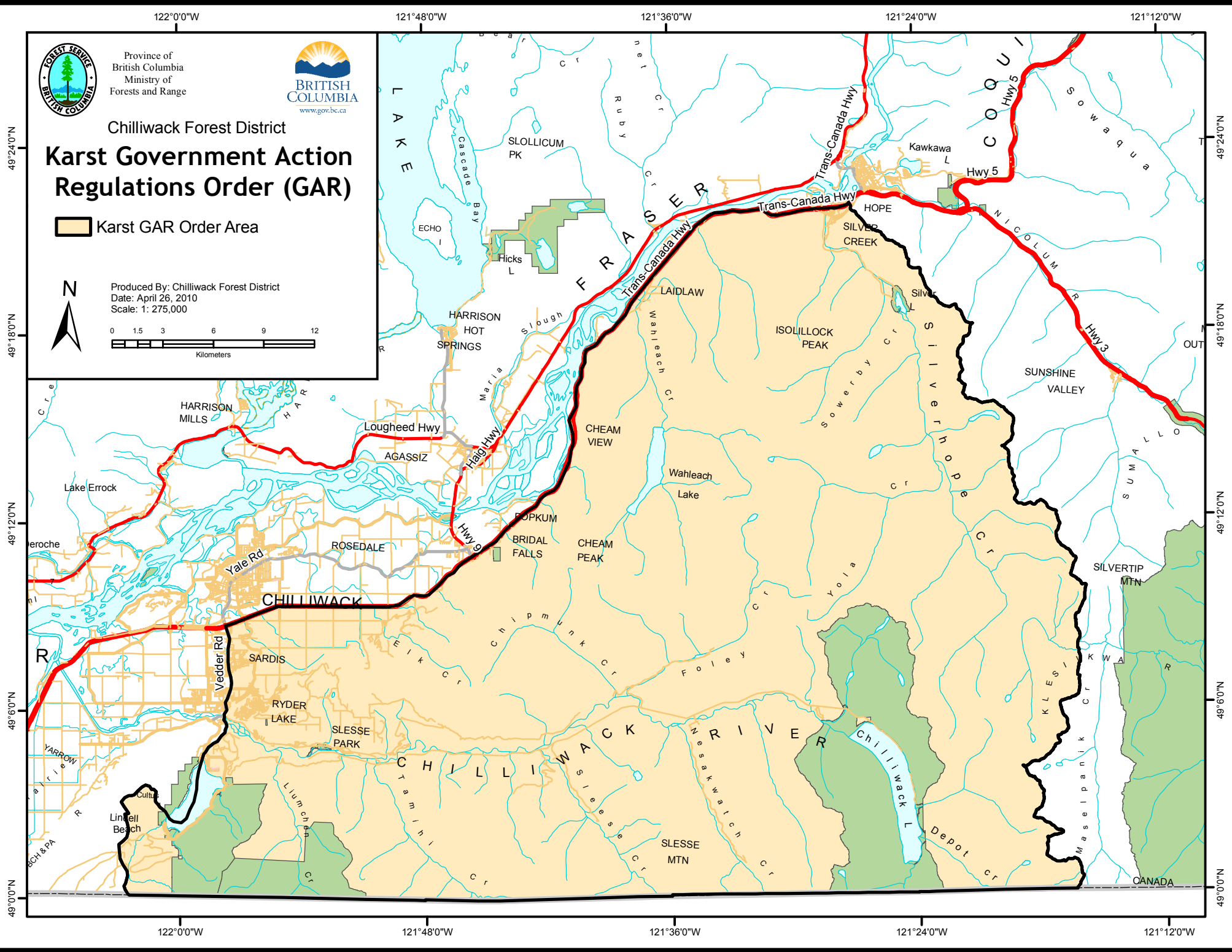
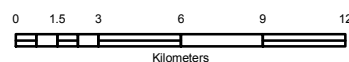
Chilliwack Forest District

# Karst Government Action Regulations Order (GAR)

 Karst GAR Order Area



Produced By: Chilliwack Forest District  
Date: April 26, 2010  
Scale: 1: 275,000





*PART OF THE*



# **Appendix 6**

**Cultural Heritage Resource Feature Order**

## **Government Actions Regulation Order**

**File:** 10285-20/RFEA/Mt Wood

**Date:** June 23, 2008

### **Order to Identify a Cultural Heritage Resource, Resource Feature on Mt. Woodside (Kweh-Kwuch-Hum) for the Chilliwack Forest District**

Pursuant to Section 5 (1) (e) of the *Government Actions Regulation* (GAR) of the *Forest and Range Practices Act*, I hereby identify the following portion of Mt. Woodside (see attached), a cultural heritage resource – resource feature. Mt Woodside (Kweh-Kwuch-Hum) is culturally important to the Chehalis and other Coast Salish aboriginal people. Several reasons for this importance are:

- (1) Location: it is in close proximity to and visible from the present day Chehalis community and it contains historic and ancient village sites.
- (2) Burial/Mortuary Sites: the Band's historic cemetery is located here and there are numerous ancient burial mounds located within the area.
- (3) Cultural and Spiritual Activity Area: it has been a significant traditional use area especially for spiritual activities, both currently and in the past.

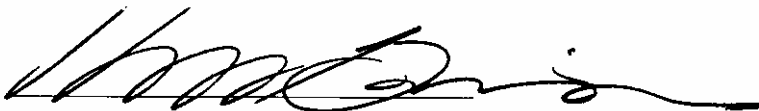
The establishment of the Kweh-Kwuch-Hum cultural heritage resource - resource feature, under a Government Actions Regulation (GAR) order, provides for the protection of this significant cultural and spiritual area. The establishment respects the sacredness of the area and will not damage or render ineffective the resource feature. It also provides licensees with a description of this cultural heritage resource - resource feature from which they can develop their plans under the *Forest and Range Practices Act*. The resource feature has been divided into the following two zones.

#### **High Cultural Features and Use Area (Red Zone)**

Purpose: to provide for the protection of this zone for the benefit of the Chehalis and other Coast Salish aboriginal people. Resource activities other than for traditional uses are not compatible. However, where there is no other practicable access route road building is permitted, provided it does not damage or render ineffective any cultural resource.

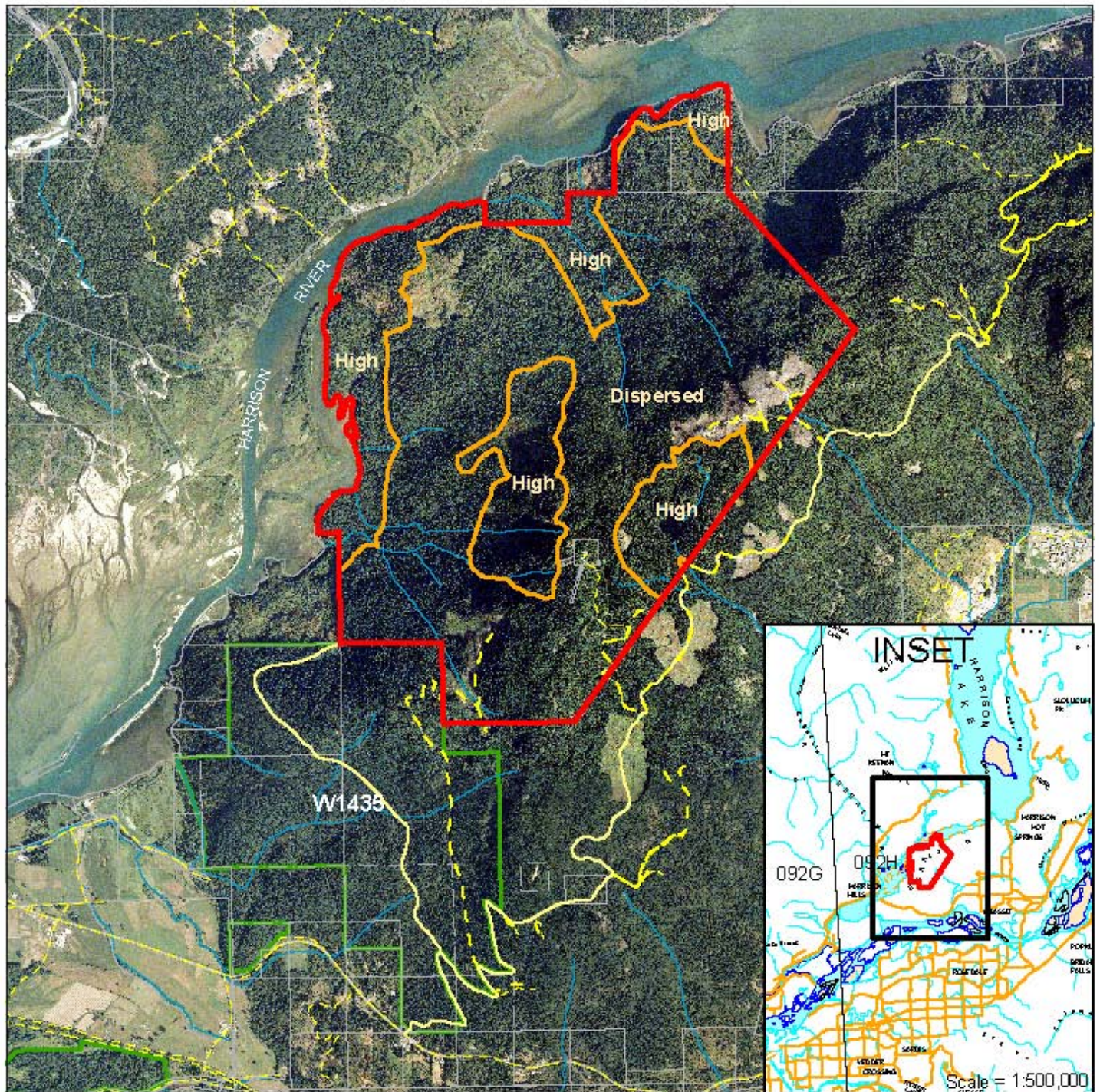
#### **Dispersed Cultural Features and Use Area (Yellow Zone)**

Purpose: to provide for the protection of important cultural aspects of the resource feature within the zone for the benefit of the Chehalis and other Coast Salish aboriginal people. Resource management activity could be considered where it does not damage or render ineffective the cultural resources of the feature.



Kerry Grozier  
District Manager  
Chilliwack Forest District

# Mt. Woodside Government Actions Regulation Order



## Legend

- |                                                                                                                          |                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <span style="border: 2px solid red; padding: 2px;"> </span> Boundary for Order                                           | <span style="border: 1px solid black; padding: 2px;"> </span> Interest Parcels                         |
| <span style="border: 2px solid orange; padding: 2px;"> </span> Cultural Features                                         | <span style="border: 1px solid black; padding: 2px;"> </span> Primary Survey Parcel                    |
| <span style="border-bottom: 2px solid yellow; display: inline-block; width: 20px;"> </span> FSR                          | <span style="border-bottom: 2px solid blue; display: inline-block; width: 20px;"> </span> River/Stream |
| <span style="border-bottom: 2px dashed yellow; display: inline-block; width: 20px;"> </span> Road Permit                 | <span style="border: 2px solid green; padding: 2px;"> </span> W1435                                    |
| <span style="border-bottom: 2px dashed yellow; display: inline-block; width: 20px;"> </span> Transportation Lines - TRIM |                                                                                                        |



Produced By: Chilliwack Forest District  
Date: January 31, 2008  
Scale 1: 40,000  
Ortho Image 2003



0 235 470 940 1,410 1,880 Meters

