

# **FOREST STEWARDSHIP PLAN**

**Community Forest Agreement K5Y  
Squamish Community Forest Limited Partnership**

**Sea to Sky Natural Resource District**

**Version 1.0**



**June 17, 2022**

**Prepared by: Adrian Litz, RPF and  
Sarah Weber, MSc**

# Authorized Licensee Signature

## Squamish Community Forest Limited Partnership

1124 Enterprise Way  
Squamish, B.C.  
V8B 0E9  
Phone: (604) 329-9957

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Squamish Community Forest Limited Partnership

Date: \_\_\_\_\_

# Signatures of Persons Responsible for Preparation of the Plan

**Preparing Forester**  
Adrian F. Litz  
Chartwell Resource Group  
Squamish, B.C.

"I certify that the work contained herein fulfills the standards acceptable of a Registered Professional Forester and that I did personally prepare and supervise the completion of the work"



Name: Adrian Litz, RPF

Date: June 22, 2022

The preparers of this FSP would like to acknowledge and thank all those persons that contributed knowledge, text and analysis of the information contained in the final version of this Forest Stewardship Plan. Significant contributors include Jeff Fisher, RPF for baseline wording throughout the document, Wesely Staven, RPF of Chartwell Resource Group Limited for contribution in the development of Results and Strategies for wildlife species at risk, Wildlife Tree Retention Areas and for the development of the Stocking Standards for specific objectives which are included in this FSP, and Rachel Amundsen, FIT for formatting of the document and providing insightful review and comment.

## Disclaimer

This Forest Stewardship Plan (FSP) has been prepared as required under Section 3 of the *Forest and Range Practices Act* (FRPA). This FSP is consistent with the FRPA, its associated regulations, as well as other relevant provincial and federal legislation, higher level plans, guidance documents and policies established by the Provincial Government. Squamish Community Forest Limited Partnership is referred to as "the holder of this FSP/ FSP holder" or "the Licensee" throughout this FSP.

## Table of Contents

<b>AUTHORIZED LICENSEE SIGNATURE</b> .....	<b>2</b>
<b>DISCLAIMER</b> .....	<b>2</b>
<b>INTRODUCTION</b> .....	<b>5</b>
1.1. DEFINITIONS IN THIS FSP.....	5
1.2. FOREST STEWARDSHIP PLAN.....	8
1.2.1. Relationship of FSP and Management Plan.....	8
1.3. PROFESSIONAL RELIANCE.....	9
1.4. CHIEF FORESTER’S GUIDANCE.....	9
1.5. FOREST STEWARDSHIP PLAN TERM .....	10
1.6. DATE OF SUBMISSION.....	10
1.7. COMMENCEMENT DATE .....	10
1.8. FOREST DEVELOPMENT UNIT.....	10
1.9. APPLICATION OF THIS FSP (FRPA S.3 (4)) .....	12
1.10. CUTBLOCKS AND ROADS TO WHICH THIS FSP WILL NOT APPLY.....	12
1.11. SITE PLANS AND STANDARD UNITS .....	12
1.12. DESIGNATIONS IN EFFECT FOUR MONTHS PRIOR TO THE DATE OF SUBMISSION OF THIS FSP (FPPR s. 14(2)(3)).....	13
1.13. AREAS NOT SUBJECT TO THE FSP .....	15
1.14. FIRST NATION AND PUBLIC CONSULTATION AND STAKEHOLDER ENGAGEMENT .....	15
1.14.1. First Nations Consultation and Information Sharing.....	15
1.14.2. Public Consultation and Information Sharing.....	15
<b>2. RESULTS OR STRATEGIES</b> .....	<b>17</b>
2.1. SOILS .....	18
2.2. VISUAL QUALITY.....	18
2.3. TIMBER.....	19
2.4. WILDLIFE .....	20
2.4.1. Grizzly Bear ( <i>Ursus arctos</i> ).....	20
2.4.2. Spotted Owl ( <i>Strix occidentalis</i> ).....	21
2.4.3. Marbled Murrelet ( <i>Brachyramphus marmoratus</i> ).....	21
2.4.4. Coastal Tailed Frog ( <i>Ascaphus truei</i> ) .....	23
2.4.5. Northern Goshawk ( <i>Accipiter gentilis laingi &amp; atricapillus</i> ssp.).....	23
2.4.6. Pacific Water Shrew ( <i>Sorex bendirii</i> ) .....	25
2.4.7. Mountain Goat ( <i>Oreamnos americanus</i> ).....	25
2.4.8. Black-tailed Deer ( <i>Odocoileus hemionus</i> ).....	27
2.4.9. Moose ( <i>Alces alces</i> ).....	27
2.4.10. Survival of Regionally Important Wildlife.....	28
2.4.11. Roosevelt Elk .....	28
2.5. WATER, FISH, WILDLIFE AND BIODIVERSITY WITHIN RIPARIAN AREAS.....	28
2.6. FISH HABITAT IN FISHERIES SENSITIVE WATERSHEDS .....	30
2.7. WATER IN A COMMUNITY WATERSHED.....	30
2.8. OTHER WATER USERS .....	32
2.9. WILDLIFE AND BIODIVERSITY – LANDSCAPE LEVEL .....	32
2.9.1. Cutblock Location and Design .....	32
2.9.2. Old Growth Management Areas .....	32
2.10. WILDLIFE AND BIODIVERSITY – STAND LEVEL .....	36
2.10.1. Wildlife Tree Retention Areas .....	36
2.11. SEA TO SKY LAND AND RESOURCES MANAGEMENT PLAN .....	38
2.11.1. First Nations Cultural Places.....	38

2.11.2	Sea to Sky Wildland Area Order .....	39
2.12.	CULTURAL HERITAGE RESOURCES .....	39
2.13.	RECREATION SITES, RECREATION TRAILS AND INTERPRETIVE FOREST SITES .....	42
2.14.	INVASIVE PLANT SPECIES.....	45
2.15.	NATURAL RANGE BARRIERS .....	46
<b>3.</b>	<b>STOCKING STANDARDS.....</b>	<b>48</b>
3.1.1.	Stocking Standard Tables Overview.....	48
3.1.2.	Stocking Standards for Specific Site Conditions or Objectives.....	48
3.1.3.	Forest Health and Drought Stocking Standards .....	49
3.1.4.	Even-Aged Stocking Standards for Wildfire Management.....	50
3.1.5.	Single Entry Dispersed Retention Stocking Standard [SEGRESS].....	51
3.1.6.	Intermediate Cut Stocking Standard .....	51
3.1.7.	Specifications of Situations and Circumstances under S.16 (FPPR) .....	52
3.1.8.	Amendments .....	52
	<b>APPENDIX A1 – EVEN-AGED STOCKING STANDARDS AND STOCKING STANDARDS FOR SPECIFIC SITE CONDITIONS .....</b>	<b>53</b>
	<b>APPENDIX A2 - SINGLE ENTRY DISPERSED RETENTION STOCKING STANDARDS .....</b>	<b>58</b>
	<b>APPENDIX A3 – DAMAGE CRITERIA FOR SINGLE ENTRY DISPERSED RETENTION STOCKING STANDARD .....</b>	<b>62</b>
	<b>APPENDIX A4 - INTERMEDIATE CUT STOCKING STANDARDS .....</b>	<b>66</b>
	<b>APPENDIX B - FSP MAPS .....</b>	<b>67</b>
	<b>APPENDIX C - ORDERS ESTABLISHING LANDSCAPE UNITS AND LAND USE OBJECTIVES</b>	
	68	
	<b>APPENDIX D - ORDERS AND NOTICES .....</b>	<b>75</b>
	<b>APPENDIX E1 - LAND USE OBJECTIVES FOR THE SEA-TO-SKY LAND AND RESOURCE MANAGEMENT PLAN.....</b>	<b>122</b>
	<b>APPENDIX E2 - SEA TO SKY WILDLAND AREA ORDER .....</b>	<b>129</b>
	<b>APPENDIX F – FIRST NATIONS CONSULTATION.....</b>	<b>134</b>
	<b>APPENDIX G - FSP ADVERTISING.....</b>	<b>135</b>
	<b>APPENDIX H – PUBLIC CONSULTATION SUMMARY.....</b>	<b>136</b>

**FIGURES AND TABLES**

FIGURE 1.	FSP OVERVIEW MAP, SHOWING THE EXTENT OF THE SQUAMISH FOREST DEVELOPMENT UNIT AND OVERLAP ON ESTABLISHED LANDSCAPE UNITS.....	11
TABLE 1.	LANDSCAPE UNITS WITH PORTIONS WITHIN THE SQUAMISH FDU .....	10
TABLE 2.	AGREEMENT HOLDERS.....	12
TABLE 3.	FPPR SECTION 14 FDU ORDERS AND DATES .....	13
TABLE 4.	ESTABLISHED OR AUTHORIZED RECREATION SITES AND TRAILS IN THE SQUAMISH FDU .....	42

# Introduction

## 1.1. Definitions in this FSP

“**Agreements**” means those licenses identified in Table 2, section 1.9 of this FSP.

“**Attributes**” means the attributes of an Affected Species specified in a Notice that relates to the Affected Species.

“**BEC**” means Biogeoclimatic Ecosystem Classification – a classification system used in British Columbia as a framework for managing ecosystems.

“**Commencement Date**” means the commencement date of the Term of this FSP as specified in section 1.7.

“**the Community Forest**” means Squamish Community Forest - Community Forest Agreement K5Y.

“**Date of Submission**” means the date of submission of this FSP as specified in section 1.6.

“**District**” means the Sea to Sky Natural Resource District.

“**Established Objective**” means:

- (a) an objective continued under section 181 of the Forest and Range Practices Act (FRPA),
- (b) an objective set by government under sections 5-10 of the Forest Planning and Practice Regulation (FPPR);
- (c) a land use objective; and
- (d) an objective established under the Government Action Regulation as of the Date of Submission.

“**FDU**” refers to a forest development unit under this FSP.

“**Floodplain Management Areas**” means the Crown Land portions of the floodplains in the Upper Lillooet River, the Soo River and the Green River floodplains as shown on Map 4 of the Ministerial Order on Land Use Objectives for the Sea-to-Sky Land & Resource Management Plan.

“**FPC**” means the “Forest Practices Code” and “Code regulations” as those terms are defined in subsection 177(1) of FRPA.

“**FPPR**” means the Forest Planning and Practices Regulation, B.C. Reg. 14/2004 made pursuant to FRPA, as that regulation existed on the Date of Submission.

“**FRPA**” means the Forest and Range Practices Act, S.B.C. 2002, c.69 as that legislation existed on the Date of Submission.

“**FSP**” means this Forest Stewardship Plan, including all tables, appendices and attachments.

“**FSP Map**” means the appended Maps in Appendix B of this Forest Stewardship Plan covering the plan area (series of 7 maps including an overview map);

“**Green-up**” means a state of regeneration in a stocked cutblock that meets the following standards:

- (a) the average height of the tallest 10% of the trees on the area to be reforested is a minimum of 3.0 m;

(b) the area contains at least 500 trees/ha of a commercially valuable species that are at least 1.3 m. in height;

**“FSP Holder”** means the holder and the agreements as identified in section 1.9, Table 2.

**“Notice”** means a notice given to the Holder by the Date of Submission pursuant to section 7(2) of the FPPR.

**“Old Growth Management Area (OGMA)”** is defined in the Forest Planning and Practices Regulation as an area that is subject to old growth management objectives established under section 3 [*resource management zones and objectives*] or 4 [*landscape units and objectives*] of the *Forest Practices Code of British Columbia Act*.

**“Order”** means an order made pursuant to the Forest Practices Code (FPC) or the Forest and Range Practices Act (FRPA) and the regulations made there under and provided to the Holder by the Date of Submission and referenced in an Objective, Result or Strategy in this FSP.

**“Permanent Access Structure”** means a pre-existing or newly constructed road and associated structures for which deactivation is not planned, and that will remain on the landscape.

**“Primary forest activity”** as defined by the FPPR means one or more of the following (a) timber harvesting; (b) silviculture treatments (b1) wildlife enhancement; (c) road construction, maintenance and deactivation.

**“Qualified Person”** means a qualified person who possesses the specified knowledge, skills, training, experience and other requirements to perform a specified type of work as: set out in legislation; set out in Provincial Government policy; or required by an organization satisfactory to the Provincial Government that has the responsibility for specifying the requirements. The requirements include holding an accreditation bestowed by: the provincial Government, a professional association constituted under an Act, or other organization satisfactory to the Provincial Government. Attainment of the requirements is either verified through a process undertaken by the Provincial Government, a professional association or other organization satisfactory to the Provincial Government, to confirm that all requirements are met, or self-assessed by members of a professional association constituted under an Act, where a code of ethics requires members to operate only within their area of expertise.

**“Riparian Management Area”** as defined by the FPPR means a riparian management area described under Division 3 [*Riparian areas*] of Part 4 [*Practice requirements*] of the FPPR that consists of a riparian management zone and a riparian reserve zone.

**“Riparian Management Zone”** as defined by the FPPR means a riparian management zone described under Division 3 [*Riparian areas*] of Part 4 [*Practice requirements*] of the FPPR, that

(a) is a portion of the riparian management area; and

(b) is established to:

- (i) conserve the fish, wildlife habitat, biodiversity and the water values of the riparian management zone, and
- (ii) protect the riparian reserve zone, if any, within the riparian management area.

**“Riparian Reserve Zone”** as defined by the FPPR means a riparian reserve zone described under Division 3 [*Riparian areas*] of Part 4 [*Practice requirements*], that

(a) is a portion of a riparian management area, and

(b) is established to protect fish, wildlife habitat, biodiversity and the water values of the riparian reserve zone.

**“Scenic Area”** means an area of land established as a scenic area under the *Forest Practices Code of British Columbia Act* on or before October 24, 2002 and continued as a scenic area under section 180 (c) of the *Forest and Range Practices Act*, or a scenic area established under section 17 of the GAR.

**“Silviculture Treatment”** (as stated in the FPPR) includes

- (a) site preparation for the purposes of reforestation,
- (b) planting trees,
- (c) brushing, including grazing for the purposes of brushing,
- (d) juvenile spacing,
- (e) fertilization,
- (f) pruning,
- (g) sanitation treatments associated with a silviculture treatment, and
- (h) pest management treatments, other than sanitation treatments.

**“Site Plan”** means a site plan as contemplated in FRPA.

**“Ungulate Winter Range (UWR)”** as defined in the FPPR, means an ungulate winter range continued under section 180 (a) [*grandparenting specified designations*] of the FRPA, or established under the Government Actions Regulation.

**“Visual Landscape Inventory (VLI)”** means the visual landscape inventory completed by the Ministry of Lands, Natural Resource Operations and Rural Development (MFLNRORD) and shown in the Land and Resource Data Warehouse.

**“Visual Quality Objective (VQO)”** as defined in the FPPR, means an objective continued, in respect of a scenic area, under section 181 of FRPA, an objective established for a scenic area under the Government Actions Regulation, or a visual quality class continued, for a scenic area, under section 17 of the Government Actions Regulation.

**“Watershed Assessment”** means an assessment carried out by a Qualified Person within a designated Community Watershed to determine the potential impacts to water quality, timing and flow based on the proposed primary forest activities. The scope and detail of the assessment are to be commensurate with the size of the watershed, scale of proposed activities and the potential risk to water quality. The watershed assessment is to include but not be limited to, a review of:

- I. the cumulative hydrological effects of previous and planned primary forest activities within the community watershed and any other requirements listed in Section 8.2 of the FPPR
- II. slope stability
- III. harvest history and green-up status
- IV. road density
- V. the degree of hydrologic recovery
- VI. potential risk to water quality, timing and flow

**“Wildlife Habitat Area (WHA)”** as defined in the FPPR, means a Wildlife Habitat Area continued under section 180 (b) [*grandparenting specified designations*] of the FRPA, or established under the Government Actions Regulation.

## 1.2. Forest Stewardship Plan

The Forest Stewardship Plan (FSP) is a requirement under Section 3 of the *Forest and Range Practices Act* (FRPA), which came into effect on January 31, 2004. This FSP has been prepared to be consistent and in accordance with the FRPA, the associated regulatory framework, provincial legislation, federal legislation as well as higher level plans and policy as described by the British Columbia Provincial Government (hereafter referred to as the Provincial Government).

The purpose of the FSP is to outline objectives set forth by the Provincial Government related to forest management activities proposed on crown lands. The achievement of the objectives, established within the FSP, is measured through results, strategies and/or measures. The intention of the objectives is to identify the strategic issues by describing a desired future condition for a particular resource or resource use, while results, strategies and/or measures describe how the desired outcome will be achieved.

A **Result** is defined in the *Forest Planning and Practices Regulation* (FPPR) 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 outcomes will be applied.”

A **Strategy** is defined in the FPPR 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.”

This FSP, where applicable, outlines measurable and verifiable results, strategies and/or measures that are compatible with provincial government established forest management and resource objectives.

In the following sections, only the Results or Strategies defined within the boxes are legally binding. All other commitments described in this FSP are to be considered voluntary best management practices. The holder of this FSP is dedicated to following these commitments and objectives.

### 1.2.1. Relationship of FSP and Management Plan

In addition to this FSP, a Management Plan has been prepared for Community Forest Agreement (CFA) K5Y as a requirement for the application for the CFA licence. The Management Plan articulates the values and broad resources management direction for the CFA while the FSP specifies the legal requirements as set by government. These two documents are applied in tandem.



### **1.3. Professional Reliance**

With the introduction of the FRPA, the Provincial Government mandated a move away from a regulatory and prescriptive environment to one that supports a results-based approach. This results-based system involves a greater role for professionals from a variety of disciplines with regards to professional reliance and accountability. The FSP holder – Squamish Community Forest Limited Partnership (SQCF LP) - recognizes the importance of professional reliance and accountability, and will utilize Qualified Persons, in their respective fields of practice, where applicable and warranted. Qualified Persons are designated by their respective association in the field of their practice such as the Association of British Columbia Forest Professionals (ABCFFP), the College of Applied Biology (CAB) and the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC).

Qualified Persons may be engaged in a variety of services including, but not limited to:

- Geotechnical or slope stability assessments;
- Wildlife/ biological assessments;
- Stream classification;
- Appraisal data collection and submission;
- FSP preparation, permit applications and amendments; and
- Site level assessments for activities such as pre-harvest site plans, road and bridge layout and design.

### **1.4. Chief Forester's Guidance**

This FSP has been prepared to incorporate recommendations from the Chief Forester's "Guidance on the Replacement of Forest Stewardship Plans (2016)" and the "Sea to Sky Natural Resource District Manager's Expectations Letter" (2016). In light of these recommendations, this FSP includes:

- Clearly stated measurable and/ or verifiable, and enforceable results and strategies that consider new information such as invasive plant management strategies and forest health.
- Commitment to ongoing First Nations information sharing and public consultation.
- Additional management direction over and above those set by FRPA, specifically with regards to endangered wildlife species not listed in FPPR Section 7 and to tree retention around small streams.
- Addition of multilayer/ high retention stocking standards as well as development of additional stocking standards that are sufficiently diverse to accommodate fire management, wildlife, climate change and forest health concerns.
- Additional background information and explanations of management commitments to increase accessibility for public understanding of the FSP content and commitments.
- A summary of the efforts and responses pertaining to the stakeholder and public consultation process.

## 1.5. Forest Stewardship Plan Term

As per Section 6(1)(a)(b) of the FRPA, the FSP holder is seeking a term of five years for this FSP, commencing on the date of approval by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLNRORD).

## 1.6. Date of Submission

The date of submission is **Month Day, 2021**.

## 1.7. Commencement Date

The term of this FSP will commence on the date specified by the Minister or his Delegated Decision Maker (DDM).

## 1.8. Forest Development Unit

A Forest Development Unit (FDU) is the broad geographic unit to which objectives, results, strategies and/ or other measures defined in the FSP are applicable. The FDU boundaries are determined by the Licensee. The attached FSP maps (Appendix B) show at a 1:100,000 scale the single FDU covering the CFA K5Y area. The FDU will be referred to as the "Squamish FDU".

Figure 1 is a map of the FSP area and the location of the Squamish FDU in relation to established Landscape Units (LUs). LUs are geographic units that are established by official orders issued by the provincial government. The Squamish FDU defined by this FSP is comprised of portions of two separate LUs as shown in Table 1. The objectives defined by the official Orders to Establish a Landscape Unit, for each individual LU, apply to the portion of the LU that falls within the Squamish FDU.

**Table 1. Landscape Units with portions within the Squamish FDU**

<b>FDU</b>	<b>Landscape Unit (portions thereof)</b>
Squamish FDU	East Howe
	Mamquam

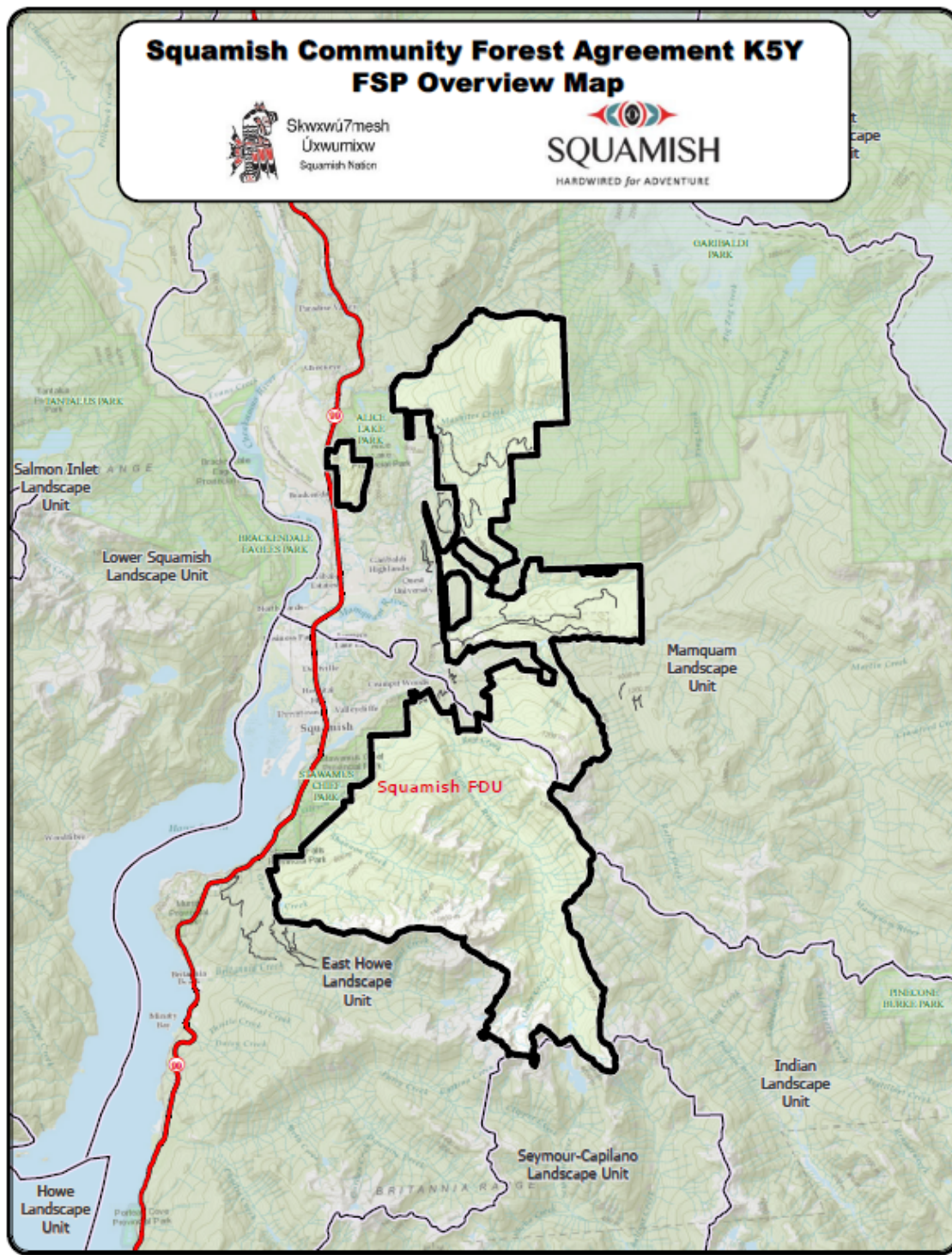


Figure 1. FSP Overview Map, showing the extent of the Squamish Forest Development Unit and overlap on established Landscape Units

## 1.9. Application of this FSP (FRPA S.3 (4))

This FSP applies to the agreements listed in Table 2; cutting permits (C.P.) and road permits (R.P.) issued or granted to the holder:

- a) after the Commencement date
- b) within the FDU

**Table 2. Agreement Holders**

HOLDER	AGREEMENT
Squamish Community Forest Limited Partnership	Community Forest Agreement K5Y

## 1.10. Cutblocks and Roads to which this FSP will not apply

This FSP is prepared for CFA K5Y, which is a new tenure. Any existing liabilities within the area will be the sole responsibility of the Licensee currently holding the liability. All cutblocks previously harvested under these licenses will continue to be managed under the standards and objectives described by the existing approved FSP and assigned by the individual block site plans. Existing Road Use Permits and Road Use Agreements will be transitioned to the community forest tenure.

## 1.11. Site Plans and Standard Units

As per Section 10 of the FRPA and Section 34 of the FPPR, the Licensee will prepare a pre-harvest site plan in accordance with the prescribed requirements for all cutblocks prior to the commencement of primary forest activities. The primary purpose of the site plan is to identify the location of the cutblocks and associated roads and to define how the results and strategies from the FSP will be applied at the block level. The site plan will also describe the Standards Units for the cutblock, to which an individual stocking standard will apply. Each cutblock will have at least one Standard Unit identified, and there is no limit on the number of Standard Units which may be applied to a single cutblock. A Standards Unit is an area that generally has uniform ecological characteristics, and to which a specific silviculture management regime is applied. The site plan is prepared, signed and sealed by a Registered Professional Forester, and maintained on file for the life of the cutblock. As the basic operational plan that encompasses and balances all resource features and values, the site plan considers each of the following forest management factors:

- Soil Productivity and Hydrologic Function;
- Timber Production;
- Species at Risk;
- Water, Fish, Riparian Areas, and Community Watersheds;
- Landscape and Stand Level Biodiversity;
- Visual Quality;
- Recreation;
- Cultural Heritage;
- Natural Range Barriers;
- Invasive Plants;
- Landscape level plans such as Landscape Unit Plans, Land and Resource Management Plans or other applicable plans, and
- Other relevant values and objectives as expressed by stakeholders or other members of the public.

### 1.12. Designations in Effect Four Months Prior to the Date of Submission of this FSP (FPPR s. 14(2)(3))

The FSP maps in Appendix B show the designations and other requirements listed in s. 14(3) of the FPPR that were in effect four months before the submission of this FSP, as noted Table 3.

**Table 3. FPPR Section 14 FDU Orders and Dates**

Type of Designation	FDU where Order applies	Date Designated
<b>FPPR s.14(3)(a) Ungulate Winter Range</b>		
Ungulate Winter Range #U2-002 Mountain Goat Soo Timber Supply Area (TSA)	Squamish FDU	October 6, 2003
Ungulate Winter Range #U2-005, Deer and Moose Winter Range Soo TSA	Squamish FDU	As amended October 31, 2014.
<b>FPPR s.14(3)(b) Wildlife Habitat Areas</b>		
Grizzly Bear #2-172 to #2-175, #2-177 to #2-193, #2-204, #2-254 to #2-270	None designated within the Squamish FDU	May 23, 2006
Grizzly Bear and Coastal Tailed Frog* Wildlife Habitat Areas #2-272 to #2-297, #2-381 to #2-386, #2-388, #2-390 to 2-406, #2-436 to 2-443  * While there are no Grizzly Bear WHAs in the Squamish FDU, this Order is relevant as it establishes exemption from preparing results or strategies for Coastal Tailed Frog.	Squamish FDU	August 25, 2010
Wildlife Habitat Areas 2-517 to 2-525 Spotted Owl	None designated within the Squamish FDU	February 28, 2013
Wildlife Habitat Areas 2-303 to 2-306, 2-308, 2-309 & 2-316 Marbled Murrelet	Squamish FDU	April 1, 2014
ORDER – Order for the Recovery of Marbled Murrelet ( <i>Brachyramphus marmoratus</i> )	Squamish FDU	December 2, 2021
Notice – Indicators of Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet ( <i>Brachyramphus marmoratus</i> )	Squamish FDU	December 2, 2021

Type of Designation	FDU where Order applies	Date Designated
<b>FPPR s.14(3)(c) Fisheries sensitive watersheds</b>	None designated within the Squamish FDU	n/a
<b>FPPR s.14 (3)(d) Lakeshore management zone</b>	None in effect within the Squamish FDU	n/a
<b>FPPR s.14 (3)(e) Scenic areas</b>		
Sea to Sky Scenic Area and Visual Quality Objectives for Hwy 99 Corridor	Squamish FDU	December 18,1995
Ministerial Order M424- Establishment of Scenic Area and Visual Quality Objectives for the Shannon Creek Watershed	Squamish FDU	October 25, 2016
<b>FPPR s.14 (3)(f) Lake identified as an L1 lake</b>	None designated within the Squamish FDU	n/a
<b>FPPR s.14 (3)(g) Community Watersheds</b>		
Mashiter Community Watershed	Squamish FDU	June 15, 1995
Stawamus Community Watershed	Squamish FDU	June 15, 1995
<b>FPPR s.14 (3)(h) Old Growth Management Areas</b>		
Established OGMA's as per the Order to Establish a Landscape Unit and Objectives - East Howe Landscape Unit	Squamish FDU	August 20, 2003
Established OGMA's as per the Ministerial Order - Land Use Objectives for the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, Sloquet South Landscape Units		October 30, 2014
<b>FPPR s.14(3)(i) Prohibited Timber Harvesting by Enactment</b>	None designated	n/a
<b>Sea to Sky Land and Resources Management Plan (S2S LRMP)</b>		
S2S LRMP – Order Establishing Land Use Objectives for the Sea to Sky Land and Resource Management Plan	Squamish FDU	April 4, 2011 Amended August 13, 2013
Sea-to-Sky Wildland Area Order	Squamish FDU	March 24, 2011
<b>FPPR s.14(3)(j) Cutting permits and Road Permits</b>		
None in place for CFA K5Y	Squamish FDU	n/a

The following documents and agreements also strongly guide forest management decisions within the FSP plan area:

- AGREEMENT ON LAND USE PLANNING Between THE SQUAMISH NATION and THE PROVINCE OF BRITISH COLUMBIA as represented by the Minister of Agriculture and Lands, July 26, 2007

- Sea to Sky Land and Resource Management Plan, April 2008

### **1.13. Areas not subject to the FSP**

Areas not subject to the FSP are adjacent Indian Reserves, woodlots, private land, provincial and federal parks and forest tenures.

### **1.14. First Nation and Public Consultation and Stakeholder Engagement**

The holder of the FSP understands that consultation is an important process allowing for a two-way exchange of information between themselves, potentially affected First Nations and interested or potentially affected local groups, stakeholders and members of the public.

The intent of the consultation process is the following:

- To promote discussion and information sharing among agreement-holders, resource agencies, non-government organizations, First Nations and the public about forest development and related activities including those values which are important for the public, First Nations, and other stakeholders;
- to provide notice, raise awareness and educate the local public on upcoming planned forest harvesting and/or other primary forest activities;
- to deliver information in a manner that allows for meaningful input and information exchange;
- to establish direct lines of communication with interested parties;
- to strive to understand potential conflicts early in the planning process; and
- to identify potentially affected parties adjacent to or within a planned reforestation or harvesting area.

Two parallel consultation and information sharing processes will be undertaken – one for the general public and one for First Nations specifically.

#### ***1.14.1. First Nations Consultation and Information Sharing***

Recognizing Indigenous rights and interests and the unique Indigenous relationship to land, consultation regarding operational/block level activities will be carried out with each First Nation within whose Traditional Territory or Consultative Area the activities are proposed. The process will include the Community Forest providing the First Nations with maps and information describing the new proposed activities, requesting comments on any impacts to cultural rights and title, and values to be considered, and communicating about options for how to address potential impacts.

The First Nations consultation and information sharing process is detailed in section 2.12 - Cultural Heritage Resources.

#### ***1.14.2. Public Consultation and Information Sharing***

The FSP/Agreement holder will aim to develop positive working relationships and communication protocols with community groups, government agencies and other stakeholders with interests in the Community Forest landbase. The Licensee will endeavour to maintain an up to date list of relevant contacts to facilitate information sharing and consultation in the case of proposed operations that may affect the identified stakeholders. Specific stakeholder individuals and groups may change over time.

Consultation regarding operational/block level activities will be carried out with potentially affected stakeholders on an ongoing basis, as relevant to the location of planned harvesting and road building or deactivation activities. The potentially affected stakeholders will be notified and their input considered in management decisions.

Public open houses or information sessions will be held at least once per calendar year, either in person or online during which recent and planned activities will be presented and opportunity for feedback provided.

All proposed road construction and harvest plans will be made available for public review and comment, through the annual open house or other means, before being submitted to government for permitting.

#### **1.14.2.1 Ring Creek Residents Planning Unit**

The Ring Creek community is a Rural Residential Neighborhood located along a short section of Ring Creek Forest Service Road and Garibaldi Park Road, immediately adjacent to the Community Forest and Garibaldi Park. Based on discussion with Ring Creek residents, the Community Forest has voluntarily designated an area around the community as the Ring Creek Residents' Planning Unit (displayed on the Other Tenures map in Appendix B). The Community Forest will enter a process with Ring Creek residents to guide future management within the Planning Unit, prior to any harvesting being actively considered within that area.



## 2. RESULTS or STRATEGIES

This section of the FSP outlines the broad forest resource management goals the FSP holder has adopted, which comply with objectives set by the Provincial Government under the FRPA and associated regulations. This section also outlines the commitments the FSP holder has adopted that are in addition to the legal objectives set by the Provincial Government.

Section 149(1) of the FRPA sets out the ability of the Provincial Government to prescribe objectives with respect to forest management activities on crown land. Specifically, this section states that the Lieutenant Governor in Council may make regulations prescribing objectives 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.

The following sections describe the legal objectives set by the Provincial Government and specify the associated results and strategies with which the FSP holder will manage these resources. Only the results and strategies defined within the boxes are legally binding. Text outside the boxes provides background for the general reader and outlines best practices.

The Management Plan for CFA K5Y provides further context in the form of community goals for management of timber and non-timber resource values across Squamish Community Forest.

## 2.1. Soils

Section 5 of the FPPR states that the objective set by government for soils is to “to conserve the productivity and the hydrologic function of soils.”

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	<p>In respect of <b>Soils</b>:</p> <p>When planning and conducting primary forest activities, the Licensee will comply with Sections 35 (Soil Disturbance Limits) and 36 (Permanent Access Structure Limits) of the FPPR.</p>

Section 35 of the FPPR defines limits to the amount of soil disturbance permitted within a cutblock based on the sensitivity of the soil type. A Qualified Person will perform site assessments at the site plan stage to determine the sensitivity of the soils present. A forest professional will develop site specific plans, prescriptions and operational measures based on results of the soil assessments. Terrain stability assessments will be commissioned as needed.

Section 36 of the FPPR states that the area in a cutblock occupied by Permanent Access Structures must not exceed 7% of the cutblock. The Licensee aims to maintain a road access network that facilitates efficient forest management activities while minimizing the amount of area impacted by roads and minimizing site disturbance. Due to prior logging history, most of the Community Forest is already extensively roaded. The Licensee will adopt a policy of “no net gain” of permanent road area. For any length of new road, following harvest, rehabilitation measures will be applied to return the road to a productive forested state. In the case of new permanent roads needing to be maintained for future access, an equivalent area of existing but unnecessary road will be returned to a productive state.

## 2.2. Visual Quality

Section 9.2 of the FPPR states that:

The objective set by government in relation to visual quality for a scenic area, that

- a) was established on or before October 24, 2002 and
  - b) for which there is no visual quality objective
- is to ensure that the altered forest landscape for the scenic area
- c) in visual sensitivity class 1 is in either the preservation or retention category,
  - d) in visual sensitivity class 2 is in either the retention or partial retention category,
  - e) in visual sensitivity class 3 is in either the partial retention or modification category,
  - f) in visual sensitivity class 4 is in either the partial retention or modification category and
  - g) in visual sensitivity class 5 is in either the modification or maximum modification category.

The Squamish FDU encompasses portions of two Scenic Areas - the Sea-to-Sky Scenic Area Highway 99 corridor, and the Shannon Creek Scenic Area.

The Sea-to-Sky Scenic Area was established under the *Forest Practices Code of British Columbia Act* (FPC) and continued under FRPA s. 180(c). Visual Quality Objectives (VQOs) established under the FPC are continued under FRPA s.181. Within known scenic areas, recommended Visual Quality Classes (rVQC) were established and brought as VQOs under Government Actions Regulation (GAR) s. 17.

The Scenic Area in the Shannon Creek watershed was also originally established under the FPC and continued under FRPA, but then repealed and replaced pursuant to Section 7(1) of the *Government Actions Regulation* (GAR). New Visual Quality Objectives were established for

Shannon Creek on October 25, 2016 by Ministerial Order M 424, pursuant to Section 7(2) of GAR.

As per the FPPR, "Visual Quality Objective (VQO)" means:

- (a) an objective continued, in respect of a scenic area, under section 181 of the Act;
- (b) an objective established for a scenic area under the Government Actions Regulation; or
- (c) a visual quality class continued, for a scenic area, under section 17 of the Government Actions Regulation;

The Licensee will design and implement primary forest activities to be consistent with the VQO assigned to the area of planned activity, and in general accordance with guidance described in the Visual Landscape Design Training Manual and the Visual Impact Assessment Guidebook. Prior to conducting a primary forest activity within an area that has an established VQO, the Licensee will ensure that sufficient field assessments, as determined by a Qualified Person, are completed to ensure consistency with the VQO assigned to the location. Sufficient assessments include preparation of a formal Visual Impact Assessment (VIA), which utilizes tools such as Digital Terrain Modelling and Google Earth imagery, and identified viewpoints based on current land use and field conditions. The VIA will be shared with relevant stakeholders as part of the public consultation process during operational planning, prior to application for cutting permits.

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	In respect of <b>Visual Quality</b> :  When operating within established scenic areas, the Licensee will plan and conduct primary forest activities in a manner consistent with the Visual Quality Objectives applicable to the areas.

### 2.3. Timber

Section 6 of the FPPR states that 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.

Section 12(8) of the FPPR states that "a person who is required to prepare a forest stewardship plan is exempt from the requirement to prepare results or strategies for an objective set by government for timber". As such, the Licensee has not prepared a result or strategy for timber objectives.

<b>Applicable Forest Development Unit(s)</b>	<b>No Results or Strategies Required</b>
Squamish FDU	No results or strategies are required for Timber objectives.

## 2.4. Wildlife

Section 7 of the FPPR states that the objective set by the Provincial Government for wildlife is "...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."

Section 7 of the FPPR further states that "a person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the minister responsible for the *Wildlife Act* gives notice to the person of the applicable (a) species referred to in subsection (1) and indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1)."

Section 7 of the FPPR goes on to state that "if satisfied that the objective set out in subsection (1) is addressed, in whole or in part, by an objective in relation to a wildlife habitat area or an ungulate winter range, a general wildlife measure, or a wildlife habitat feature, the minister responsible for the *Wildlife Act* must exempt a person from the obligation to specify a result or strategy in relation to the objective set out in subsection (1) to the extent that the objective is already addressed."

The 'Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Squamish Forest District' (issued December 21, 2004), provides the amount, distribution and attributes of wildlife habitat required for the survival of species at risk within the Sea to Sky Natural Resource District. The Notice identified the following species as being species at risk and addressed habitat requirements for the species at risk:

- 1) Marbled Murrelet (*Brachyramphus marmoratus*);
- 2) Coastal Tailed Frog (*Ascaphus truei*);
- 3) Grizzly Bear (*Ursus arctos*); and,
- 4) Spotted Owl (*Strix occidentalis*).

Following the 2004 Notice, Wildlife Habitat Areas (WHA) have been established for the identified species at risk, and Ungulate Winter Ranges (UWR) have been established for the winter survival of specified ungulate species (Moose, Mountain Goat and Black-tailed deer). The Orders establishing WHAs and UWRs, and the General Wildlife Measures (GWMs) provided by the Orders meet the requirements of the Section 7 Notice and as per the Notice the holder of the FSP is exempt from the requirement to specify a result or strategy in relation to the survival of species at risk and the winter survival of specified ungulate species.

The location of applicable established WHAs and UWRs are found on the maps in Appendix B.

In addition to the species at risk identified in the Notice above, as per direction from a letter issued by the Acting District Manager for the Sea to Sky Natural Resource District (Shaw-MacLaren 2016), the following species at risk were also considered in the preparation of this plan:

- 1) Pacific Water Shrew (*Sorex bendirii*); and,
- 2) Northern Goshawk (*Accipiter gentilis*).

Site level assessments will be completed for species at risk and their habitat when planning and conducting primary forest activities.

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

Wildlife Habitat Areas (WHA) have been established for Grizzly Bear within the Sea to Sky Natural Resource District. The Licensee is thus exempt from the obligation to prepare a result or

strategy for Grizzly Bears. None of the established WHA's fall within the Squamish FDU, so no specific actions with respect to Grizzly Bear are required by the Licensee.

The Squamish Community Forest is located within the Garibaldi-Pitt Grizzly Bear Population Unit area. Habitat values for Grizzly Bears within the Community Forest are generally low, in part due to high levels of human activity and high road density. There is a possibility that Grizzly Bears may travel through the Community Forest as a migration corridor.

In consideration of Grizzly Bears, the Community Forest will focus on maintaining and enhancing the ability for Grizzlies to travel through and across the landbase. Measures to facilitate Grizzly travel include the establishment and maintenance of riparian reserve corridors, in-block tree retention, minimizing sight lines from roads as much as possible, minimizing new road construction and deactivating unnecessary roads. The Licensee will follow best practices for safeguarding any habitat values that are encountered during field assessments.

<b>Applicable Forest Development Unit(s)</b>	<b>No Results or Strategies Required</b>
Squamish FDU	None of the established Grizzly Bear WHA's are located in the Squamish FDU so no specific actions with respect to Grizzly Bear are required.

**2.4.2. Spotted Owl (*Strix occidentalis*)**

Wildlife Habitat Areas have been established within the Sea to Sky Natural Resource District for Spotted Owls in the 'Order – Wildlife Habitat Areas #2-517 to #2-525' (February 28<sup>th</sup>, 2013). The Order states that pursuant to Section 7(2) of the FPPR 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 FPPR for Spotted Owl in the Sea to Sky Natural Resource District.

<b>Applicable Forest Development Unit(s)</b>	<b>No Results or Strategies Required</b>
Squamish FDU	As there are no Spotted Owl Wildlife Habitat Areas in the FDU covered by this FSP, no results or strategies are required.

In the low likelihood that a Spotted Owl is sighted within the Squamish Community Forest, the Licensee will work with habitat specialists to determine appropriate management measures.

**2.4.3. Marbled Murrelet (*Brachyramphus marmoratus*)**

Wildlife Habitat Areas have been established within the Sea to Sky Natural Resource District for Marbled Murrelets (*Brachyramphus marmoratus*) in the 'Order - Wildlife Habitat Areas #2-303 to #2-306, #2-308, #2-309 & #2-316 (April 1<sup>st</sup>, 2014) (see Appendix D). The Order states that pursuant to Section 7(3) of the FPPR 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 FPPR for Marbled Murrelet in the Sea to Sky Natural Resource District.

<b>Applicable Forest Development</b>	<b>Results or Strategies</b>
--------------------------------------	------------------------------

<b>Unit(s)</b>	
Squamish FDU	In respect of <b>Marbled Murrelet</b> ( <i>Brachyramphus marmoratus</i> ):  When planning and conducting primary forest activities, the Licensee will comply with the <b>Order</b> and manage the identified Marbled Murrelet <b>Wildlife Habitat Areas</b> within the FDU according to the <b>General Wildlife Measures</b> set out in the <b>Order</b> .

The Ministry of Forests, Lands, Natural Resource Operations and Rural Development; **Ministerial Order – Order for the Recovery of Marbled Murrelet** (*Brachyramphus marmoratus*), effective December 2, 2021, and the accompanying **Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet** (*Brachyramphus marmoratus*) (Appendix D) are applicable to the Squamish FDU. The purpose of the Order is to ensure the availability of suitable habitat for Marbled Murrelet meets or exceeds minimum habitat thresholds for provincial crown land for the southern Mainland Coast Conservation Region. The purpose of the Notice is to include indicators of the amount, distribution and attributes of Wildlife Habitat Areas required for survival of Marbled Murrelet. The Notice provides the minimum amount of Marbled Murrelet nesting habitat (Suitable Habitat) to be maintained within Wildlife Habitat Areas, Old Growth Management Areas and within Landscape Units, Landscape Unit Aggregates and across Forest Districts. The release of the Order and the Notice included mapping of the identified suitable habitat areas. The location of these suitable habitat polygons has been added to the FSP maps in Appendix B. Suitable Habitat polygons have been identified within the FDU covered by this FSP.

To meet the objective for maintaining suitable habitat areas for Marbled Murrelet, consistent with the Order and the Notice, the licensee proposes the following Results:

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	In this result “ <b>Order</b> ” means the: <b>Ministerial Order – Order for the Recovery of Marbled Murrelet</b> ( <i>Brachyramphus marmoratus</i> ) - effective December 2, 2021.  When planning and conducting primary forest activities, the Licensee will comply with the Order by maintaining the amount of Suitable Habitat equal to or greater than:  a) the Minimum Threshold in Landscape Unit Aggregate SeatoSky1 (Schedule 7, Table 1 of the Order), and  b) the Suitable Habitat Target in Landscape Unit Portion Mamquam and Landscape Unit Portion East Howe (Schedule 7, Table 2, column A of the Order).

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	In this result “ <b>Notice</b> ” means the: <b>Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet</b> ( <i>Brachyramphus marmoratus</i> ) - effective December 2, 2021.

	<p>When planning and conducting primary forest activities, the Licensee will comply with the Notice by maintaining the amount of Suitable Habitat equal to or greater than the MAMU Suitable Habitat targets (Table 2 and 3 of the Notice) with Attributes provided in Schedule 1 of the Notice, to be established as:</p> <p>a) MAMU Wildlife Habitat Areas in Landscape Unit Portion Mamquam and Landscape Unit Portion East Howe; and</p> <p>b) MAMU Wildlife Habitat Areas and Old Growth Management Areas in Landscape Unit Portion Mamquam and Landscape Unit Portion East Howe.</p>
--	--

**2.4.4. Coastal Tailed Frog (*Ascaphus truei*)**

Coastal Tailed Frogs (*Ascaphus truei*) were at one time protected by specific designated habitat areas as per the NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE SQUAMISH FOREST DISTRICT. However, it was subsequently determined that sufficient Coastal Tailed Frog habitat had been protected through the establishment of reserves for other species, and that as such, section 1c) of the ‘Order – Wildlife Habitat Areas #2-272 to #2-297, #2-381 to #2-386, #2-388, #2-390 to #2-406, #2-436 to #2-443 Grizzly Bear – Squamish Forest District’ (Appendix D) states that “pursuant to Section 7(3) of the FPPR, persons required to prepare a Forest Stewardship Plan are hereby exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the FPPR for Coastal Tailed Frog in the Sea to Sky Natural Resource District”.

The Licensee plans to implement additional Coastal Tailed Frog habitat management at the stand and landscape level and has prepared the following strategy:

Applicable Forest Development Unit(s)	Strategy
Squamish FDU	<p>In respect of <b>Coastal Tailed Frog</b> (<i>Ascaphus truei</i>):</p> <p>For watercourses with known Coastal Tailed Frog populations, or those with high value habitat, as determined by a Qualified Person, when planning and conducting primary forest activities, the Licensee will adhere to the following strategies:</p> <ul style="list-style-type: none"> <li>• Machinery will not cross these streams except on a road.</li> <li>• Road crossings will be minimized wherever practical.</li> <li>• Machinery working within the Riparian Management Zone will be minimized wherever practical.</li> <li>• A minimum 10m wide Reserve Zone will be established along both sides of each watercourse containing known tailed frog populations or high value habitat, which will be subject to the restrictions listed in Section 51 of the FPPR.</li> </ul>

**2.4.5. Northern Goshawk (*Accipiter gentilis laingi* & *atricapillus* ssp.)**

According to scientific studies, there are two species of Northern Goshawk: *Accipiter gentilis laingi* & *atricapillus*. The *A. g. laingi* subspecies is listed as ‘threatened’ by COSEWIC under the *Species at Risk Act*, listed as ‘imperiled’ by the BC Conservation Data Centre, and is a ‘red-listed’/ ‘endangered species’ provincially. The *A. g. laingi* subspecies is also the subject of a

federal recovery strategy. The *A. g. atricapillus* subspecies is not listed federally, is listed as a 'species of special concern' by the BC Conservation Data Centre, and is a 'blue-listed'/ 'species of special concern' provincially. There are no established WHAs or objectives, or FPPR Section 7 Notices currently in effect for Northern Goshawk in the Sea to Sky Natural Resource District.

The two subspecies of Northern Goshawk in British Columbia are believed to occupy different habitats. The (*A. g. laingi*) was previously believed to be a coastal subspecies and the (*A. g. atricapillus*) is an interior subspecies (Parks Canada Agency 2017). In a recent study, it was identified that *A. g. laingi* is found solely in Haida Gwaii and is not believed to occupy other coastal areas as previously thought (Geraldes et al. 2019) but this information has not yet been applied to Provincial Government planning processes. It is most likely that the subspecies that would be encountered in the Squamish FDU is the *A. g. atricapillus* subspecies.

The following strategy is proposed for Northern Goshawk habitat:

As per direction from a letter issued by the Acting District Manager for the Sea to Sky Natural Resource District (Shaw-MacLaren, FLNRORD, 2016), the *laingi* subspecies has been added to this FSP. In addition, the Licensee will follow the general guidance provided by the District Manager for the Sea to Sky Natural Resource District regarding "Northern Goshawk Breeding Habitat Protection" (Dave Southam, FLNRORD, 2019).

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>In respect of <b>Northern Goshawk</b> (<i>Accipiter gentilis laingi</i>):</p> <p>When planning and conducting primary forest activities, the Licensee will adhere to the following strategies:</p> <ul style="list-style-type: none"> <li>• If a Northern Goshawk nest is located, a Qualified Person will determine appropriate measures to act in accordance with the <i>Wildlife Act</i>, the Implementation Plan for the Recovery of Northern Goshawk, <i>laingi</i> Subspecies (<i>Accipiter gentilis laingi</i>) in British Columbia (FLNRORD, February 2018), the Science-Based Guidelines for Managing Northern Goshawk Breeding Areas in Coastal British Columbia (McClaren et al 2015) and other pertinent information. Measures developed by the Qualified Person will be implemented by the Licensee to avoid disturbance to the nest or individual goshawk. These measures include but will not be limited to: timing restrictions on activities with potential to disturb nesting goshawks and/ or delineating no-work zones of an appropriate width on active nest sites. Buffer width and management considerations will be based on site specific features such as nest activity, nest location, surrounding topography, forest cover and habitat types, auditory screening characteristics of the landscape and the types of activities expected to occur adjacent to nest.</li> <li>• If a Northern Goshawk or Northern Goshawk nest is encountered when planning or conducting primary forest activities it will be reported to the BC Conservation Data Centre and Ministry of Forests Lands, Natural Resource Operations and Rural Development (FLNRORD) as soon as practical.</li> </ul>



	<ul style="list-style-type: none"> <li>• Prior to initiating fieldwork, field staff will be trained in the identification of Northern Goshawk individuals, their habitat, and their nests.</li> </ul>
--	---

**2.4.6. Pacific Water Shrew (*Sorex bendirii*)**

There are no established WHAs or objectives, or FPPR Section 7 Notices currently in effect for the Pacific Water Shrew (*Sorex bendirii*) in the Sea to Sky Natural Resource District. However, it is listed as Endangered in Canada by COSEWIC under the Federal *Species at Risk Act*, listed as Imperiled by the BC Conservation Data Centre, and is a Red-Listed / Endangered Species provincially. The Pacific Water Shrew is also the subject of a draft Federal recovery strategy. The current documented range of the Pacific Water Shrew in British Columbia includes the Fraser Valley, Lower Mainland and as far north as Squamish. While there are currently no locally reported occurrences, there is potential that the Pacific Water Shrew is present in the valley bottoms of the Community Forest area. According to the working committee on this species, the Pacific Water Shrew is associated with skunk cabbage marshes, red alder, riparian and stream habitats, and dense wet forests of western redcedar in the lower mainland. Most captures are in riparian habitats in close proximity to water (Environment Canada 2014).

To protect Pacific Water Shrew habitat, the Licensee proposes the following strategy:

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>In respect of <b>Pacific Water Shrew</b> (<i>Sorex bendirii</i>):</p> <p>When planning or conducting primary forest activities within an area with known or newly identified Pacific Water Shrew populations, the Licensee will:</p> <ul style="list-style-type: none"> <li>• Seek advice from a Qualified Person on the management and protection of Pacific Water Shrew or their habitat, and</li> <li>• Ensure that that advice is incorporated into a plan and that the plan is implemented.</li> <li>• Report sightings to the BC Conservation Data Centre.</li> <li>• Prior to planning or conducting primary forest activities, train field staff in the identification of Pacific Water Shrew and its habitat.</li> </ul>

**2.4.7. Mountain Goat (*Oreamnos americanus*)**

To manage for the winter survival of specified ungulate species (Mountain Goat, Black-tailed Deer, and Moose), Ungulate Winter Range (UWR) areas containing suitable habitat to promote winter survival of these ungulate species have been established in the plan area. UWRs are subject to specific management requirements as defined by the Order establishing them.

<b>Applicable Forest Development Unit(s)</b>	<b>Result/Strategy</b>
--	------------------------

<p>Squamish FDU</p>	<p>In respect of <b>Mountain Goat</b> (<i>Oreamnos americanus</i>)</p> <p>With respect to the <b>ORDER-UNGULATE WINTER RANGE #U2-002 (October 16, 2003)</b> which establishes winter ranges for Mountain Goats (Appendix D):</p> <p>When planning and conducting primary forest activities, the Licensee will comply with the <b>ORDER</b> and manage Mountain Goat Winter Ranges, as identified on the FSP maps (Appendix B), in accordance with Objectives #1 and #2 of the Order.</p> <p>In addition, the Licensee will also adopt the following strategy when operating adjacent to a Goat Winter Range (GWR) polygon:</p> <ul style="list-style-type: none"> <li>• No primary forest activities will occur within 500m of a GWR polygon that could disturb mountain goats during the critical overwintering and kidding period from November 1st to April 30th unless measures are taken to ensure Mountain Goats are not disturbed by the operations, as prescribed by a Qualified Person.</li> </ul>
---------------------	---

**2.4.8. Black-tailed Deer (*Odocoileus hemionus*)**

<b>Applicable Forest Development Unit(s)</b>	<b>Result and Strategies</b>
Squamish FDU	<p>In respect of <b>Black-tailed Deer</b> (<i>Odocoileus hemionus</i> spp.):</p> <p>With respect to the <b>ORDER - Amendment to UNGULATE WINTER RANGE U-2-005 Black-tailed Deer and Moose – Sea to Sky Forest District</b> (October 31, 2014) which established Ungulate Winter Ranges for Black-tailed Deer and Moose (Appendix D):</p> <p>When planning and conducting primary forest activities, Licensee will comply with the <b>ORDER</b> and manage Ungulate Winter Ranges for Black-tailed Deer, as identified on the FSP maps (Appendix B), in accordance with the <b>ORDER</b>.</p> <p>In addition to the objectives listed in the Order, when conducting primary forest activities within a Deer Winter Range Rotation Unit, the Licensee will also adopt the following strategies:</p> <ul style="list-style-type: none"> <li>• Timber will be harvested using a Retention silviculture system.</li> <li>• Understory trees will be retained wherever practical.</li> <li>• A report will be prepared by a Qualified Person using spatial analysis and ground-truthing to ensure the requirements of the Order are met prior to commencement of a primary forest activity.</li> </ul>

In addition to the legally defined measures, the Licensee will apply best practices to further protect habitat for Mountain Goats and Black-tailed Deer at the site level. Examples include protection of unique habitat features such as mineral licks, day beds, and travel corridors, the use of retention silviculture systems, and retention of large crown trees to provide snow interception cover. These features will be protected through strategic placement of WTRAs or individual tree retention.

**2.4.9. Moose (*Alces alces*)**

<b>Applicable Forest Development Unit(s)</b>	<b>No Results or Strategies required</b>
Squamish FDU	<p>In respect of <b>Moose</b> (<i>Alces alces</i>):</p> <p>As there are no Moose Winter Ranges in the FDU covered by this FSP, no results or strategies are required.</p>

#### 2.4.10. Survival of Regionally Important Wildlife

The Minister responsible for the *Wildlife Act* has not identified any Regionally Important Wildlife within the FDU identified in this FSP; therefore, no results or strategies are required.

No results or strategies have been prepared for Regionally Important Wildlife, as none have been designated within the Squamish FDU.

#### 2.4.11. Roosevelt Elk

Roosevelt elk (*Cervus canadensis roosevelti*) has been identified by both Squamish Nation and Tseil-Waututh Nation as a culturally important species. Elk are prey for top predators and influence plant phenology and successional pathways in their preferred habitats (FLNRORD 2015). Roosevelt elk were locally extirpated due to historic hunting pressure and have since been reintroduced. UWRs for Roosevelt elk and black-tailed deer have been established throughout the West Coast Region but not in the South Coast Region where the FDU in this FSP is located.

In respect of Roosevelt elk, the FSP holder is committed to developing site-specific and landscape level measures to address concerns associated with management and protection of this species. Management measures pertaining to Roosevelt elk protection may include but will not be limited to the following:

- Not using herbicides during silviculture activities and treatments;
- Developing strategies to reduce the potential for traffic conflicts / motor vehicle conflicts;
- Consider Roosevelt elk during access management planning by minimizing road densities across the FDU; and
- Planning landscape-level block arrangement to promote a range of forest ages classes to provide sufficient forage, thermal and security cover across the landscape.

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

Section 8 of the FPPR states that the objective set by the Provincial Government for water, fish, wildlife and biodiversity within riparian areas is “to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.”

Applicable Forest Development Unit(s)	Strategy
Squamish FDU	<p>In respect of <b>water, fish, wildlife and biodiversity within riparian areas:</b></p> <p>When conducting primary forest activities, the Licensee will comply with the following sections of the FPPR as those sections were on the date of submission of this FSP:</p> <ul style="list-style-type: none"> <li>• Section 47 (Stream Riparian Classes),</li> <li>• Section 48 (Wetland Riparian Classes),</li> <li>• Section 49 (Lake Riparian Classes),</li> <li>• Section 50 (Restrictions in a Riparian Management Area),</li> <li>• Section 51 (Restrictions in a Riparian Reserve Zone),</li> <li>• Section 52(2) (Restrictions in a Riparian Management Zone), and</li> <li>• Section 53 (Temperature Sensitive Streams).</li> </ul>

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>																
Squamish FDU	<p>In respect of <b>retention of trees within riparian management zones</b>:</p> <p>(1) In respect to sections 8 and 12(3) of the FPPR, to address <b>the retention of trees in a riparian management zone</b>, the Licensee will:</p> <p>(a) ensure that prior to harvesting; retention levels within the RMZ's are determined by a Qualified Person through a riparian assessment that considers:</p> <p>i) all the factors listed in Schedule 1, section 2 of the FPPR as that section was on the date of submission of this FSP, and</p> <p>ii) potential site-specific safety and operational issues.</p> <p>(b) design cutblocks and roads in a manner that is consistent with the retention levels as determined by the Qualified Person as described in (a).</p> <p>(c) plan and conduct primary forest activities consistent with the results and recommendations of the assessment (a) and the design (b).</p> <p>The Licensee will meet or exceed the level of retention for each riparian classification as detailed in the following table:</p> <p><b>Basal Area Retention within a Riparian Management Zone</b></p> <table border="1" data-bbox="430 892 1388 1249"> <thead> <tr> <th data-bbox="430 892 820 955"><b>Riparian Class</b></th> <th data-bbox="820 892 1388 955"><b>Minimum Basal Area to be Retained Within the RMZ</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="430 955 820 997">S1-A or S1-B stream</td> <td data-bbox="820 955 1388 997">20%</td> </tr> <tr> <td data-bbox="430 997 820 1039">S2 stream</td> <td data-bbox="820 997 1388 1039">20%</td> </tr> <tr> <td data-bbox="430 1039 820 1081">S3 stream</td> <td data-bbox="820 1039 1388 1081">20%</td> </tr> <tr> <td data-bbox="430 1081 820 1123">S4 stream</td> <td data-bbox="820 1081 1388 1123">10%</td> </tr> <tr> <td data-bbox="430 1123 820 1165">S5 stream</td> <td data-bbox="820 1123 1388 1165">10%</td> </tr> <tr> <td data-bbox="430 1165 820 1207">S6 stream</td> <td data-bbox="820 1165 1388 1207">0%</td> </tr> <tr> <td data-bbox="430 1207 820 1249">All classes of wetlands or lakes</td> <td data-bbox="820 1207 1388 1249">10%</td> </tr> </tbody> </table> <p>Where determined to be appropriate and practical, the basal area retained within a RMZ will be similar to the pre-harvest stand structure attributes, may include both coniferous and deciduous vegetation, with consideration given to specific stand attributes, understory vegetation (consistent with applicable stocking standards), large wildlife trees and coarse woody debris.</p>	<b>Riparian Class</b>	<b>Minimum Basal Area to be Retained Within the RMZ</b>	S1-A or S1-B stream	20%	S2 stream	20%	S3 stream	20%	S4 stream	10%	S5 stream	10%	S6 stream	0%	All classes of wetlands or lakes	10%
<b>Riparian Class</b>	<b>Minimum Basal Area to be Retained Within the RMZ</b>																
S1-A or S1-B stream	20%																
S2 stream	20%																
S3 stream	20%																
S4 stream	10%																
S5 stream	10%																
S6 stream	0%																
All classes of wetlands or lakes	10%																

Additional retention within the Riparian Management Zone (RMZ) may be prescribed prior to harvesting by a Qualified Person, having regard to:

- Potential safety hazards.
- Operational constraints, economics and efficiency.
- The need to buffer the riparian feature from the introduction of materials that are deleterious to water quality of fish habitat.
- The role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity.
- The role of the RMZ in maintaining stream bank and stream channel integrity and normally functioning drainage processes.
- The relative importance and sensitivity of the riparian feature/class in conserving water quality, fish habitat, wildlife habitat and biodiversity.
- The type, timing or intensity of forest practices that are proposed.

- The species composition and physical structure of the riparian management zone as it was prior to timber harvesting.
- The role of the RMZ, where applicable, in maintaining the integrity of the associated reserve zone.
- The risk as determined by assessment of windthrow within the RMZ.
- The risk of riparian area impacts, where applicable, as determined by a terrain stability field assessment.
- The role of forest shading in controlling an increase in temperature of a stream, if the increase might have a deleterious effect on fish or fish habitat.
- The potential for and risk from downstream transport of introduced woody material if falling and yarding across riparian features is planned.
- The potential for and risk of stream bank instability, introduction of deleterious substances and transport of introduced woody or sediment materials if machine crossing of riparian features is planned.
- The probability of traditional and current First Nation uses.

Riparian management boundaries will be marked in the field (where necessary), shown on operational maps, documented in the Site Plan, and discussed with operators prior to start-up in a pre-work.

## 2.6. Fish Habitat in Fisheries Sensitive Watersheds

Watersheds with very high downstream fisheries value may be designated by the Provincial Government as “Fisheries Sensitive Watersheds” under Schedule 2 of the FPPR. No watersheds within the Squamish FDU have been designated as such, and therefore no results or strategies apply. The Licensee will maintain the protection of fish habitat by following the relevant sections of the FPPR, including the establishment of riparian reserve zones adjacent to fish-bearing streams, described above in Section 2.5 of this FSP.

<b><i>Applicable Forest Development Unit(s)</i></b>	<b><i>No Results or Strategies Required</i></b>
Squamish FDU	No results or strategies are required for Fisheries Sensitive Watersheds, as none are identified in Schedule 2 of the FPPR within the Sea to Sky Natural Resource District or the Squamish FDU.

## 2.7. Water in a Community Watershed

As defined in section 8.2 of the FPPR, the objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed, is to ensure the cumulative hydrological effects of primary forest activities within the watershed area do not result in;

- A material adverse impact on the quantity of water or the timing of the flow of water from the waterworks, or
- The water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment.

Almost all of the Stawamus Community Watershed and a large portion of the Mashiter Community Watershed are located in the Squamish Community Forest (see maps in Appendix B).

The Stawamus River and Mashiter Creek Integrated Watershed Management Plan (IWMP) was completed in 1998 and approved in principle in 2000 with a caveat that work continue resolving the issue of public access and gating of the Stawamus/Indian Forest Service Road. The IWMP is now out of context with the current land uses and needs to be updated. Watershed assessments of Stawamus River and Mashiter Creek were completed in 2001 and are now also out of date.

Until such time as the IWMP is updated, the Community Forest will apply the requirements for assessments as if there were no assessments or IWMP in place. As such, the Licensee proposes the following:

<b><i>Applicable Forest Development Unit(s)</i></b>	<b><i>Result</i></b>
Squamish FDU	<p>In respect of <b>Community Watersheds without existing Watershed Assessments:</b></p> <p>If primary forest activities are planned for a community watershed that is subject to section 8.2 of the FPPR at the time of submission of this FSP, and that is not the subject of a current Watershed Assessment; the Licensee will:</p> <ol style="list-style-type: none"> <li>1) Engage a Qualified Person to conduct an assessment of the watershed in which the activities are proposed. The scope and detail of the assessment are to be commensurate with the size of the watershed, scale of proposed activities and the potential risk to water quality. The assessment is to include but not be limited to, a review of: <ul style="list-style-type: none"> <li>• the cumulative hydrological effects of previous and planned primary forest activities within the community watershed and any other requirements listed in Section 8.2 of the FPPR,</li> <li>• slope stability,</li> <li>• harvest history and green-up status,</li> <li>• road density,</li> <li>• the degree of hydrologic recovery, and</li> <li>• potential risk to water quality, timing and flow.</li> </ul> </li> <li>2) Provide an opportunity for the Community Watershed stakeholders to review and comment on the resulting assessment. The Licensee will consider and reply in writing to written comments that are received within 30 days of the assessment becoming available for stakeholder review.</li> <li>3) Plan and conduct primary forest activities consistent with the results and recommendations of the assessment.</li> </ol>

## 2.8. Other Water Users

There are a number of water licenses held within the Squamish FDU. Water license holders will be considered to be stakeholders if their license is potentially affected by planned activities. The location of water license points of diversion within the Squamish Community Forest area are illustrated on the FSP Maps (Appendix B). Prior to undertaking any harvesting activities upstream of a water license the following measures will be carried out:

- Available mapping data illustrating water license locations will be reviewed to determine if there are any active water licenses located downstream from the area of planned harvest with potential to be impacted by harvesting operations.
- If there is potential for impact, the holder of the water license will be identified and information sharing regarding planned timber harvesting will be undertaken.
- Appropriate assessments and activity planning will be completed by a Qualified Person to prevent adverse material impacts to water quality and flow during primary forest operations.
- If required, development of the block specific site plan will detail the management requirements that will be put in place to protect water quality and water works structures.
- The identified water user will be given the opportunity to review the operational plan to ensure all concerns regarding impacts to water quality and water license are addressed.

## 2.9. Wildlife and Biodiversity – Landscape Level

### 2.9.1. Cutblock Location and Design

Section 9 of the FPPR states that the objective set by the Provincial Government for wildlife and biodiversity at the landscape level are "...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."

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	When planning and conducting primary forest activities, the Licensee will comply with Sections 64 (Maximum Cutblock Size) and 65 (Harvesting Adjacent to Another Cutblock) of the FPPR.

Limits on maximum cutblock size and on harvesting adjacent to existing non-greened up cutblocks will be applied to ensure all operations remain consistent with the objectives for wildlife and biodiversity at the landscape level.

### 2.9.2. Old Growth Management Areas

Old Growth Management Areas (OGMAs) have been legally established within the Squamish FDU by the *Ministerial Order Land Use Objectives for the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, Sloquet South Landscape Units, located in the Sea to Sky District*, and the *Order to Establish a Landscape Unit and Objectives – East Howe Landscape Unit*.

OGMAs are legally designated to retain representative forest stands in old forest conditions, spatially distributed across each landscape unit (LU), throughout each biogeoclimatic ecosystem classification (BEC) subzone variant. The location of OGMAs in the Squamish FDU is illustrated on FSP maps in Appendix B. Copies of the Landscape Unit Orders and their respective objectives can be found in Appendix C.



OGMAs contain either intact stands of forest greater than 250 years old with old growth stand structure attributes or forested stands that are less than 250 years old, where old growth stand structure attributes can be recruited.

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>										
Squamish FDU	<p>In respect of <b>wildlife and biodiversity at the landscape level:</b></p> <p>In accordance with Section 25.1 (2) of the FPPR, when planning and conducting primary forest activities, the Licensee will manage landscape level biodiversity consistent with <b>Part 2 - Objectives</b> and <b>Part 3 – Identification of Replacement Area and Communication</b> of the <i>Order Establishing Land Use Objectives for the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, Sloquet South Landscape Units, located in the Sea to Sky District, and Objectives 1 and 2</i> of the <i>Order to Establish a Landscape Unit and Objectives – East Howe Landscape Unit</i> by;</p> <p>1) Avoiding primary forest activities within Old Growth Management Areas (OGMA) established by the Orders and shown on FSP maps, unless suitable replacement area is available and the primary forest activity is consistent with the exemptions for primary forest activities provided below.</p> <p>2) Within the Mamquam LU, primary forest activities within OGMA are permitted only when the area of trees felled within the OGMA or the OGMA incursion area meet the following requirements:</p> <ul style="list-style-type: none"> <li>• &lt; 2.0ha</li> <li>• &lt; 5.0% of an OGMA area</li> </ul> <p>whichever is lesser.</p> <p>3) Within the East Howe LU, where sufficient suitable replacement area is available in the BEC variants listed below, the Licensee may undertake primary forest activities within OGMAs that are greater than 10.0ha in size, for operational reasons, up to a cumulative maximum defined in the table below:</p> <table border="1" data-bbox="435 1264 1485 1495"> <thead> <tr> <th colspan="2"><b>Cumulative Maximum OGMA replacement (Ha) by Variant – East Howe LU</b></th> </tr> </thead> <tbody> <tr> <td>CWHdm</td> <td>10</td> </tr> <tr> <td>CWHvm1</td> <td>n/a</td> </tr> <tr> <td>CWHvm2</td> <td>35ha</td> </tr> <tr> <td>MHm1</td> <td>55ha</td> </tr> </tbody> </table> <p>provided that suitable replacement area of equivalent or better quality and quantity is identified in order of priority,</p> <ul style="list-style-type: none"> <li>• Immediately adjacent to the existing OGMA, or</li> <li>• In the same variant and landscape unit as the existing OGMA, and</li> <li>• In the Mamquam LU, the suitable replacement area is located as close as practicable to the OGMA subject to primary forest activities; where</li> </ul> <p>“operational reasons” refers to primary forest activities which are necessary to be completed within an established OGMA to address a safety concern or an operational constraint on areas directly adjacent to an OGMA, where the safety concern or the constraint on completion of a primary forest activity cannot be addressed or completed</p>	<b>Cumulative Maximum OGMA replacement (Ha) by Variant – East Howe LU</b>		CWHdm	10	CWHvm1	n/a	CWHvm2	35ha	MHm1	55ha
<b>Cumulative Maximum OGMA replacement (Ha) by Variant – East Howe LU</b>											
CWHdm	10										
CWHvm1	n/a										
CWHvm2	35ha										
MHm1	55ha										

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>				
	<p>without impact on the OGMA.</p> <p>“cumulative maximum” refers to the sum of all OGMA incursions occurring within each BEC zone / variant represented within each Landscape Unit, for OGMA established by the individual Orders to Establish Landscape Units and any associated amendments, and;</p> <p>“suitable replacement area” refers to the areas selected for replacement that maintain or improve ecological attributes and spatial distribution of OGMA.</p> <p>Primary forest activities within OGMA consistent with the replacement criteria provided in (2) and (3) are permitted only within OGMA located in the East Howe LU which meet the following requirements:</p> <ul style="list-style-type: none"> <li>• OGMA's &gt;10ha to &lt;50ha in size where the primary forest activity affects the OGMA by &lt;5ha,</li> <li>• OGMA's ≥50ha to &lt;100ha in size where the primary forest activity affects the OGMA by &lt;10ha</li> <li>• OGMA's ≥100ha where the primary forest activity affects the OGMA by &lt;10%</li> <li>• Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding suitable replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within 4 years of the completion of the primary forest activity.</li> </ul> <p>Within the Mamquam LU any trees felled within an OGMA to prevent insect infestations or diseases posing a significant threat to forest health, or to remove an identified safety hazard within road right of ways, recreation sites or trails are to be left on site to function as coarse woody debris, except where the CWD will pose a significant risk to forest health.</p> <p>The exemptions from the no harvest requirements described in (2) and (3) do not apply to the following OGMA within each respective LU.</p> <table border="1" data-bbox="431 1268 1487 1402"> <thead> <tr> <th data-bbox="431 1268 954 1346">East Howe</th> <th data-bbox="954 1268 1487 1346">Mamquam</th> </tr> </thead> <tbody> <tr> <td data-bbox="431 1346 954 1402">6, 7, 35</td> <td data-bbox="954 1346 1487 1402">6, 35, 55, 77, 102, 110, 112</td> </tr> </tbody> </table> <p>No primary forest activities are to occur in these OGMA's.</p> <p>4) During planning and prior to conducting primary forest activities within an OGMA identified as suitable for replacement as per (2) and (3) above, the Licensee will employ a Qualified Person to prepare a rationale to support the request for approval to complete primary forest activities within and designate appropriate replacement area for an established OGMA. This request will be submitted to the Delegated Decision Maker (DDM) for the Sea to Sky Natural Resource District prior to submission of a cutting permit (CP) or road permit (RP) application. The rationale will include:</p> <ul style="list-style-type: none"> <li>• A map of the proposed areas for removal and replacement which illustrates the location, ecological classification and areal extent of the removal and replacement areas and confirmation of consistency with (2) and (3)</li> <li>• An analysis of the cumulative OGMA replacement history completed within the applicable LU to demonstrate consistency with the cumulative maximum criteria described in (2)</li> <li>• A description of the ecological attributes on the proposed removal / replacement</li> </ul>	East Howe	Mamquam	6, 7, 35	6, 35, 55, 77, 102, 110, 112
East Howe	Mamquam				
6, 7, 35	6, 35, 55, 77, 102, 110, 112				

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
	<p>area that will be maintained or improved.</p> <ul style="list-style-type: none"> <li>• A description of the location of the proposed removal / replacement area and how the area selected as replacement will maintain or improve the spatial distribution of OGMA within the LU.</li> <li>• A description of the operational reason, as defined in (2), for which the removal and replacement are being requested.</li> </ul> <p>Upon approval by the DDM for an OGMA removal and replacement the Licensee will provide the relevant spatial data to the Sea to Sky Natural Resource District to facilitate update of the BC Geographic Warehouse (BCGW). Spatial updates are to be provided within the calendar year in which the removal and replacement is approved.</p> <p>5) The criteria for removal and replacement of OGMA described in (2), (3) and (4) also apply in the specific circumstances, where the following primary forest activities are permissible activities requiring OGMA replacement.</p> <ul style="list-style-type: none"> <li>• Timber harvest may occur within an OGMA to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's,</li> <li>• Construction of rock quarries and gravel pits under the authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by &lt;0.5ha, and</li> <li>• Intrusions, other than those specified, that affect an OGMA by less than 0.5ha.</li> </ul> <p>6) The criteria for removal and replacement of OGMA described in (2), (3), (4) and (5) do not apply in the specific circumstances, where the following primary forest activities are considered to be permissible activities for safety purposes which would not require OGMA replacement, such as;</p> <ul style="list-style-type: none"> <li>• Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.</li> <li>• 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.</li> </ul> <p>7) During planning and prior to conducting primary forest activities, and despite the criteria for removal and replacement of established OGMA defined in (2) through (5), the Licensee may employ a Qualified Person to prepare a rationale to request the relocation of an OGMA through an amendment to the Land Use Order establishing the Landscape Unit and respective OGMA's, with no restriction on the size of the area to be relocated. This approach will only apply to situations where a previously unknown significant forest resource value(s) requiring protection is identified within an area where primary forest activities are planned. This approach will only be utilized to relocate OGMA, where the relocation would result in increased protection of the identified high value forest resource(s). The request will be submitted for approval to the DDM for the Sea to Sky Natural Resource District prior to submission of a cutting permit (CP) or road permit (RP) application. The request will include;</p> <ul style="list-style-type: none"> <li>• A map illustrating the proposed area for removal from OGMA and the proposed area for OGMA relocation.</li> <li>• A description of the forest resource value requiring protection identified outside of the OGMA. Such resource values include but are not limited to; active goshawk or marbled murrelet nests, significant wildlife habitat features, important wildlife habitat connectivity corridors, significant archeological or cultural heritage artifacts, specified tree(s), the presence of endangered plants or ecosystems, or</li> </ul>

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
	<p>to reduce landscape fragmentation.</p> <ul style="list-style-type: none"> <li>• A description of the ecological attributes on the proposed removal area, with reference to the OGMA Summary and Rational Description for the East Howe LU provided as Appendix IV to the Landscape Unit Plan (LUP) prepared for the East Howe LU and the Landscape Unit OGMA Summary provided as Appendix III in the Landscape Unit Plan for Old Growth Management Areas for the Mamquam, Tuwasus, Lizzie and Sloquet (High, North and South) LU's.</li> <li>• A description of the ecological attributes on the proposed relocation area that will be maintained or improved by relocation.</li> <li>• A description of the proposed removal and relocation area and how the selected OGMA relocation area will maintain or improve the spatial distribution of OGMA within the LU.</li> <li>• Confirmation that the relocated area is immediately adjacent to the existing OGMA, or, if the area immediately adjacent is unsuitable, that the relocated area is in the same variant and landscape unit as the existing OGMA</li> </ul> <p>Upon approval by the DDM for an OGMA relocation through an amendment to the Land Use Order, the Licensee will provide the relevant spatial data to the Sea to Sky Natural Resource District, to facilitate update of the BCGW. Spatial updates are to be provided within the calendar year in which the relocation is approved.</p>

## 2.10. Wildlife and Biodiversity – Stand Level

### 2.10.1. Wildlife Tree Retention Areas

Section 9.1 of the FPPR states that the objective set by the Provincial Government for wildlife and biodiversity at the stand level is "...to retain wildlife trees." Wildlife trees will be retained across the landscape within Wildlife Tree Retention Area (WTRAs) established by the Licensee and associated with every cutblock harvested as per the FPPR.

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	<p>In respect of <b>wildlife and biodiversity at the stand level:</b></p> <p>In accordance with Section 12.1 (4) of the FPPR, when planning and conducting primary forest activities, the Licensee will comply with or exceed Section 66 of the FPPR (Wildlife Tree Retention).</p>

In addition, the Order to establish a Landscape Unit for the East Howe LU has been approved which establishes additional criteria with regards to managing WTRAs. As such, the Licensee proposes the following Results for the establishment of WTRAs:

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>								
Squamish FDU (East Howe LU)	When conducting primary forest activities, the Licensee will manage stand level biological diversity and structural diversity in accordance with Objective 2 (1), (2) and (4) to (7) of the <i>Order to Establish a Landscape Unit and Objectives – East Howe Landscape Unit (August 20, 2003)</i> , but will establish WTRAs in accordance with the following table, which replaces Table A of the Order.								
	<table border="1"> <thead> <tr> <th><b>BEC Subzone</b></th> <th><b>% WTRA</b></th> </tr> </thead> <tbody> <tr> <td>CWHdm (Coastal Western Hemlock – dry maritime)</td> <td>7.0</td> </tr> <tr> <td>CWHvm (Coastal Western Hemlock – very wet maritime)</td> <td>10.0</td> </tr> <tr> <td>MHmm (Mountain Hemlock – moist maritime)</td> <td>7.0</td> </tr> </tbody> </table>	<b>BEC Subzone</b>	<b>% WTRA</b>	CWHdm (Coastal Western Hemlock – dry maritime)	7.0	CWHvm (Coastal Western Hemlock – very wet maritime)	10.0	MHmm (Mountain Hemlock – moist maritime)	7.0
	<b>BEC Subzone</b>	<b>% WTRA</b>							
	CWHdm (Coastal Western Hemlock – dry maritime)	7.0							
	CWHvm (Coastal Western Hemlock – very wet maritime)	10.0							
MHmm (Mountain Hemlock – moist maritime)	7.0								

The Order establishing the Mamquam Landscape Unit does not provide WTRA establishment objectives. The following result is proposed for the Mamquam LU portion of the Squamish FDU in regard to WTRA establishment.

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>												
Squamish FDU (Mamquam LU)	Within the Mamquam LU portion of the Squamish FDU the Licensee, when planning and conducting primary forest activities, will comply with the requirements of Section 66 of the FPPR. When conducting primary forest activities, the Licensee will manage stand level biological diversity and structural diversity by establishing WTRAs as follows:												
	<table border="1"> <thead> <tr> <th><b>BEC Subzone</b></th> <th><b>% WTRA</b></th> </tr> </thead> <tbody> <tr> <td>CWHdm (Coastal Western Hemlock – dry maritime)</td> <td>7.0</td> </tr> <tr> <td>CWHds (Coastal Western Hemlock – dry subarctic)</td> <td>7.0</td> </tr> <tr> <td>CWHms1 (Coastal Western Hemlock – moist subarctic)</td> <td>7.0</td> </tr> <tr> <td>CWHvm2 (Coastal Western Hemlock – moist subarctic)</td> <td>7.0</td> </tr> <tr> <td>MHmm (Mountain Hemlock – moist maritime)</td> <td>7.0</td> </tr> </tbody> </table>	<b>BEC Subzone</b>	<b>% WTRA</b>	CWHdm (Coastal Western Hemlock – dry maritime)	7.0	CWHds (Coastal Western Hemlock – dry subarctic)	7.0	CWHms1 (Coastal Western Hemlock – moist subarctic)	7.0	CWHvm2 (Coastal Western Hemlock – moist subarctic)	7.0	MHmm (Mountain Hemlock – moist maritime)	7.0
	<b>BEC Subzone</b>	<b>% WTRA</b>											
	CWHdm (Coastal Western Hemlock – dry maritime)	7.0											
	CWHds (Coastal Western Hemlock – dry subarctic)	7.0											
	CWHms1 (Coastal Western Hemlock – moist subarctic)	7.0											
CWHvm2 (Coastal Western Hemlock – moist subarctic)	7.0												
MHmm (Mountain Hemlock – moist maritime)	7.0												

<b>Applicable Forest Development Unit(s)</b>	<b>Result</b>
Squamish FDU	<p>In respect of <b>wildlife and biodiversity at the stand level:</b></p> <p>With regard to objective 2(3) of the Order establishing the East Howe LU, and with section 12.1(4) of the FPPR, in the Mamquam LU. When planning and conducting primary forest activities, the Licensee may harvest timber from within an established WTRA if replacement WTRA exists of equivalent quantity and equivalent or better quality within the same BEC zone, and immediately adjacent to the cutblock for which the WTRA was assigned.</p> <p>Prior to initiating primary forest activities within a previously established WTRA, a replacement plan will be prepared by a Qualified Person. The replacement plan will provide the rationale which supports the decision to harvest within and replace a WTRA. The Licensee will ensure that primary forest activities are completed consistent with the WTRA replacement plan.</p>

## 2.11. Sea to Sky Land and Resources Management Plan

The Sea to Sky Land and Resources Management Plan is a higher-level plan that provides strategic direction for managing local economic development, and the long-term sustainability of ecological, social, and cultural values. Two Land Use Orders were established by government as a result of this plan: 'Land Use Objectives for the Sea to Sky Land and Resource Management Plan' (approved April 4, 2011 and amended August 13, 2013) (Appendix E1), and the 'Sea to Sky Wildland Order' (approved April 14, 2011) (Appendix E2). These orders are applicable to the Squamish FDU.

The August 13, 2013 amendment to the Ministerial Order, 'Land Use Objectives for the Sea to Sky Land and Resource Management Plan' added the definition of 'Forested Area' and added the 'Lil'wat Nation Q'em'sam (Old Growth and Sensitive Area)' to the areas defined as Cultural Places. This Order establishes specific objectives for the following designations:

- First Nations' Cultural Places
- First Nations' Cultural Management Areas
- Floodplain Management Areas
- Riparian Areas

There are no Cultural Management Areas, Floodplain Management Areas, or Riparian Areas in the Squamish FDU, only Cultural Places.

### 2.11.1. First Nations Cultural Places

Two established Cultural Places are within the Community Forest;

- Raffuse Creek S'iyamín ta Skwxwú7mesh (cultural site), which is completely within the Squamish FDU, and
- Stawamus Creek S'iyamín ta Skwxwú7mesh (cultural site), which lies partially within the Squamish FDU.

Cultural places are shown on the FSP maps in Appendix B.

To be consistent with the Orders, the following results and/or strategies have been prepared to address the objectives for Cultural Places.

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>In respect of <b>First Nations Cultural Places</b>, the Licensee will act in a manner consistent with the Objectives from Part 2 of the Ministerial Order for 'Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan' (as amended August 13, 2013).</p> <p>Within cultural places listed in Schedule 1 of the Ministerial Order- which in the Squamish FDU are Raffuse Creek S'iyamín ta Skwxwú7mesh (cultural site), and part of Stawamus Creek S'iyamín ta Skwxwú7mesh (cultural site) - the Licensee will:</p> <ol style="list-style-type: none"> <li>1. Protect the cultural heritage resources within the cultural places to support First Nations' food, social, ceremonial and spiritual use of the forest.</li> <li>2. The Licensee will maintain 100% of the forested area in Squamish</li> </ol>

	<p>Nation Siyamin ta Skwxwu7mesh (cultural sites). No primary forest activities will be planned or conducted within cultural sites</p> <p>Despite subsection 3(2) of the Ministerial Order, timber harvesting may occur in the cultural places to:</p> <ul style="list-style-type: none"> <li>• maintain forest health within the cultural places and adjacent forests;</li> <li>• address road maintenance activities within the cultural places; and to</li> <li>• eliminate a safety hazard.</li> </ul> <p>A copy of the Ministerial Order and respective objectives and schedule can be found in Appendix E1.</p>
--	---

### 2.11.2 Sea to Sky Wildland Area Order

Wildland areas have been established in the Sea to Sky Natural Resource District pursuant to the *Province of BC ORDER OF LIEUTENANT GOVERNOR IN COUNCIL Sea-to-Sky Wildland Area Order (March 24, 2011)* (Appendix E2). They are typically located at higher elevations and include transitional forest and alpine areas. Wildland areas are not available for commercial logging.

A large portion of the Sky Pilot Wildland Zone is within the Community Forest. The Sky Pilot Wildland contains popular climbing and mountaineering areas and is designated as Recreation emphasis.

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>In respect of the <b><i>Province of BC ORDER OF LIEUTENANT GOVERNOR IN COUNCIL Sea to Sky Wildland Area Order</i></b>:</p> <p>The Licensee will not plan or conduct primary forest activities within Wildland Zones. This is consistent with the <i>Province of BC ORDER OF LIEUTENANT GOVERNOR IN COUNCIL Sea to Sky Wildland Area Order (March 24, 2011)</i>.</p>

## 2.12. Cultural Heritage Resources

Section 10 of the FPPR states that 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 a traditional use by an aboriginal people that is of continuing importance to that people, and (b) not regulated under the *Heritage Conservation Act*.”

The entire Squamish FDU is entirely within the Traditional Territory of Squamish Nation. The majority of Squamish FDU is also within the Tsleil-Waututh Consultative Area and the southern portion is within the Musqueam Nation Consultative Area.

A small portion of the Squamish FDU lies within or near the Areas of Interest for Seabird Island Band, Soowahlie First Nation, Shxw’ōwhámel First Nation, Skawahlook/ Sq’ewá:lxw First Nation, Stó:lō Nation and Stó:lō Tribal Council.

Forest management within the Squamish FDU will take into account Squamish Nation cultural policies such as the Squamish Nation Heritage Policy, and the Licensee will work in cooperation with the Squamish Nation Cultural Cedar Tree Program Policy.

To conserve and protect cultural heritage resources, when primary forest activities are proposed within the Squamish FDU, information sharing will be completed with the pertinent First Nation(s), consistent with the Strategy presented below.

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>1. The Licensee will, when conducting primary forestry activities under this FSP, do so in a manner consistent with:</p> <p>(a) conserving or if necessary, protecting cultural heritage resources that are:</p> <p>i) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, are determined to be important, valuable and scarce, as determined through:</p> <ul style="list-style-type: none"> <li>• documented information sharing between the Licensee and the affected First Nation prior to the review and comment period outlined in s.21 of the FPPR and/or;</li> <li>• information received from the affected First Nation in accordance with FPPR s.20;</li> <li>• information received from the affected First Nation in accordance with section 2 below.</li> </ul> <p>ii) not regulated under the <i>Heritage Conservation Act</i> or are not conserved and protected by other arrangements and;</p> <p>iii) that are likely to be adversely impacted by the activities of Licensee, and;</p> <p>iv) are capable of being addressed in the context of this FSP.</p> <p>2. Prior to applying for a cutting permit or road permit, the following process will be carried out to provide the First Nations with the opportunity to provide cultural heritage information and/or identify any potential impacts to cultural rights and title that may result from the proposed primary forestry activities. This pertains to "new" proposed development areas, where "new" refers to areas not previously forwarded to First Nations for review.</p> <p>(a) The Licensee will send maps of sufficient scale (i.e. 1:5000) showing the location of proposed roads and block boundaries, reserve areas, creeks and water features and an overview map (i.e. 1:20,000) showing the proposed block and/or roads in context to the applicable First Nations community.</p> <p>(b) A written description of the proposed development describing any known values on the site and how they will be affected and/or protected. Values described would include but are not limited to information on archeological or cultural heritage resources, wildlife features (dens, nests, trails), riparian features, visual quality objectives and recreation values associated with the block. The Licensee will request the First Nation to review the information provided and to identify and inform the Licensee if there are undisclosed cultural heritage resources with the potential to be impacted by the proposed primary forest activity.</p>



(c) New information and/or feedback received from the First Nations within 60 days will be reviewed in the context to which the primary forest activities will impact upon the cultural heritage resource value.

(d) The Licensee will determine, based on information and recommendations received from the potentially affected First Nations, what options, if any, exist to eliminate or mitigate identified impacts from the proposed primary forest activities. If no mitigation options exist, forest activities will not occur without the First Nations' approval. No primary forest activities will occur unless confirmation is received from the First Nation that the activities, as planned, are appropriate to protect cultural heritage resource values.

(e) If during primary forest activities, previously unknown cultural heritage resources are discovered, the Licensee will immediately suspend work in the vicinity of the heritage resource value and the First Nations and MFLNRORD will be notified in writing, as to what mitigation options, if any, will be taken to conserve and/or protect the previously unknown cultural heritage resource values.

(f) The mitigation options identified will be required to be reviewed and approved by the potentially affected First Nation prior to continuing work in the area.

3. In addition to subsection 1 and 2 of this strategy, and specific to western redcedar and yellow cedar for cultural wood, the Licensee will:

(a) plant or promote natural regeneration of western redcedar and yellow cedar as components of future stands, where ecologically suited, on areas referred to in FRPA s.29(1) and in accordance with the stocking standards in this FSP; and

(b) at the request of a First Nation, and where the requested western redcedar or yellow cedar is for cultural use, and consistent with the historical extent of the quantity of western red cedar and yellow cedar used for cultural use within the area of the FSP:

i) make western redcedar and/or yellow cedar for cultural use available through operational sources consistent with planned operations.

ii) assist a First Nation in identifying western redcedar/yellow cedar trees suitable for cultural use, should the First Nation choose to harvest the trees themselves.

\* western redcedar/yellow cedar for cultural use refers to this species used for the making of paddles, masks, totems, canoes and similar traditional use items.

### 2.13. Recreation Sites, Recreation Trails and Interpretive Forest Sites

The Province of BC has not specified any objectives for recreation under the FRPA. However, recreation trails, recreation sites and interpretive forests were established under the FPC and have been continued under FRPA s.180. Any objectives associated with these sites have been continued under s.181 of the FRPA. There are recreation trails established under FRPA s.56 or authorized for construction under FRPA s. 57 within the FDU covered by this FSP. Trails established or authorized under section 56 and 57 have no established objectives.

Several non-established / not authorized trails and recreation features exist within the Licensee's operating area.

The Recreation map in Appendix B illustrates the location of established recreation features as well as known non-established / not authorized trails within the plan area.

The recreation sites, trails and interpretive forests within the Squamish FDU, at the time of FSP preparation are listed in Table 4. There are no Interpretive Forests within the Community Forest.

**Table 4. Established or Authorized Recreation Sites and Trails in the Squamish FDU**

FOREST FILE ID	RECREATION TRAIL NAME
REC16116	Powerhouse Plunge
REC16117	Ring Creek Rip
REC16124	Wonderland
REC169474	Eds Bypass
REC169488	Somewhere Out There Trail
REC169491	Bonzai Trail
REC191665	Cam and Phils Trail
REC203255	Mad Hatter
REC203258	Sky Pilot Trail Network
REC203281	Mountain Lake Trail
REC205538	M104 Mountain Bike Trail
REC205540	Stl'halem Sintl' Trail -Legacy Trail
REC205542	Full Nelson Mountain Bike Trail
REC205544	Fools Gold Trail
REC205638	Wheldon Trail
REC230452	Alice Lake
REC230497	Hot Tuna
REC230517	Crouching Squirrel Hidden Monkey
REC230959	Climb Stl'halem Sintl'
REC230966	Meadow of the Grizzlys (pelhx-en-tl-a-stl-lhalem)
REC240470	"Through the Looking Glass"
REC257847	Craigs Connector
REC258053	CB ("Slippery Salmon"?)
REC258500	Short Circuit
REC258510	OneUp

<b>FOREST FILE ID</b>	<b>RECREATION TRAIL NAME</b>
REC258875	Mamquam
REC261516	Intergalactic
REC261518	Plastic Scheisse
REC261520	CB Upper
REC261671	Miki's Magic
REC265407	Alice Ridge
REC32395	Pseudotsuga Mountain Bike Trail
REC32397	Flat Alley
REC32399	Upper Powersmart
REC32401	Mamquam Plunge Connector
REC32484	Lower Powersmart
REC32503	Cliff's and Rob's corners
REC32953	Half Nelson Trail
REC33008	Bob McIntosh Trail
REC33036	Dead End Loop
REC33040	Made in the Shade - Alice Ridge Trail
REC6130	PETGILL LAKE TRAIL
REC6772	Utopia Lake Trail
<b>FOREST FILE ID</b>	<b>RECREATION SITES</b>
REC247289	Debecks Hill
REC262222	Diamond Head Parking
REC258873	Mamquam Parking
<b>FOREST FILE ID</b>	<b>RECREATION RESERVE</b>
REC6277	Raffuse Creek
<b>FOREST FILE ID</b>	<b>INTERPRETIVE FOREST</b>
n/a	None

It is recognized that in the future, additional Recreation Trails or Recreation Sites may be authorized or established by BC Rec Sites and Trails within the Squamish Community Forest.

Any non-established or unauthorized trail or feature identified during planning for primary forest activities will be assessed by a qualified forestry professional for the compatibility of the feature with respect to the range of adjacent and overlapping resource and ecological values.

Non-established features which are compatible with the values present will be managed similar to the strategy detailed below for established features without objectives.

Features not compatible with existing values or with the potential to promote degradation of an existing value will not be recognized or managed as a recreation feature.

Within this FSP the definition of non-established / not authorized recreation resource features includes historical items such as old rail grades / trestles and remnants of early 20<sup>th</sup> century logging equipment related to past forest management and harvesting activities within the Community Forest area. Historical items such as this will be managed similar to the strategy detailed below for established features without objectives.

To manage for recreation resources, the following strategies are proposed:

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>When planning and conducting primary forest activities which overlap or are within 30m of an established recreation site or trail for which there is an established objective(s), the Licensee will:</p> <ul style="list-style-type: none"> <li>• Plan and conduct primary forest activities consistent with the established objective(s) for each established recreation site or trail for which there is an established objective(s).</li> <li>• Identify the primary user group of the feature and facilitate consultation between the licensee, the user group and the Sea to Sky District Recreation Officer to identify any concerns or potential impacts to the feature or use of the feature and the strategies that can be employed to minimize or eliminate these impacts.</li> <li>• Provide in writing to the user group and to the District Recreation Officer, a summary of the consultation efforts, the identified concerns and the mitigation actions that will be utilized to minimize or eliminate the effects of the primary forest activity on the feature and its use.</li> </ul>

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>When planning and conducting primary forest activities which overlap or are within 30m of an established recreation site or trail for which there are no established objective(s), the Licensee will:</p> <ul style="list-style-type: none"> <li>• Identify the primary user group of the feature and facilitate consultation between the licensee and the user group to identify any concerns or potential impacts to the feature or use of the feature</li> <li>• Through consultation determine if strategies exist that can be employed during primary forest activities to eliminate impacts or reduce the impact to a level acceptable to primary users.</li> <li>• If during consultation it is determined that strategies do exist to eliminate impacts, then during primary forest activities these strategies will be implemented.</li> <li>• If during consultation it is determined that planned forest activities will require impact on the feature and its use, then through consultation with the user group the licensee will determine the actions that can be utilized during primary forest activities so that the level of impact is acceptable to the primary user group.</li> <li>• If impacts on a feature are required which would render ineffective the relevant established recreation site or trail, the licensee will seek agreements with the primary user group to facilitate replacement or re-establishment of the impacted portion of a feature, or other wise compensate the primary user group for the impact.</li> <li>• Provide in writing to the user group and to the District Recreation Officer, a summary of the consultation efforts, the identified concerns and the mitigation actions that will be utilized to eliminate, minimize, replace or compensate for the impact from the primary forest activity on the feature and its use.</li> </ul>

The Licensee recognizes that the presence of high recreation values, numerous recreation features and the high level of public recreation use within the Community Forest will require development of cooperative relationships with various user groups to ensure effective consultation and communication.

A process for ongoing consultation will be developed to determine management options on identified overlaps between recreation features and areas of planned primary forestry activities. Consultation is expected to include discussion of activity locations and activity timing that considers the expected level of recreation use of the area. Consultation will inform the scheduling of primary forest activities. The Licensee will strive to minimize primary forest activities during times of heaviest recreation use.

Effective communication channels will be developed to facilitate communication between the Community Forest and the various recreation and public user groups and their membership. The location and timing of primary forest activities and related trail closures, road closures, entry restrictions on active areas, parking constraints, etc. will be communicated to public users and user groups to promote safe use of the Community Forest area for all users.

## 2.14. Invasive Plant Species

Section 17 of the FPPR states that “for the purpose of Section 47 of the Act, 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 Licensee proposes the following measures for invasive plants:

<b>Applicable Forest Development Unit(s)</b>	<b>Strategy</b>
Squamish FDU	<p>In respect of the objective, invasive plant species are those identified in Section 2 of the <i>Invasive Plants Regulation</i>.</p> <p>For the purposes of s. 47 of FRPA, when planning and conducting primary forest activities the following measures will be taken by the Holders of the FSP to prevent the introduction or spread of invasive plants if such introduction or spread is likely to be the result of forest practices carried out under this FSP:</p> <ol style="list-style-type: none"> <li>1) Prior to application for permits to complete Primary Forest Activities the licensee will review the IAPP for the presence of reported invasive species within or adjacent (within 500m) of the site where PFA are planned. The Invasive Alien Plant Program (IAPP), <i>Report a Weed</i> application will be utilized for this review. The IAPP is a multiple agency database for inventory and reporting of invasive plant location data in British Columbia.</li> <li>2) Inventory, map and monitor the presence and spread of invasive plant species within cutblocks and roads under permit or obligation by the Licensees within the FDU’s identified in the FSP. This will primarily be completed while conducting field related forest management or primary forest activities.</li> <li>3) Record any new occurrences of invasive plant species identified within the FDU and annually report their presence to IAPP / <i>Report a Weed</i>.</li> <li>4) To prevent the establishment or spread of invasive plant species, where the establishment or spread of invasive species can be reasonably expected, the Licensees will re-vegetate, through</li> </ol>

	<p>grass seeding, soils exposed by forest practices, which include soils disturbed during harvesting and/or road building operations (ditchlines, cut slopes, fill slopes) as well as deactivated roads. In the context of this document, the term “reasonably expected” is determined by the presence of invasive plant reported or discovered within 500m of the planned or completed PFA and where these activities result in conditions suitable for establishment or spread of invasive species (e.g., disturbed and exposed mineral soil). The seed used to re-vegetate exposed soils will be of grade Canada Common #1 Forage Mixture (or better) as accepted under the <i>Canada Seeds Act</i> (RS 1985, c S-8) and the associated regulations. Re-vegetation of exposed soils will be completed within the growing season immediately following the timing of the activity that results in disturbance or exposure of the soil.</p> <ol style="list-style-type: none"> <li>5) Prior to conducting forestry activities in areas where invasive plant species have been identified, workers will be educated to their presence and instructed in preventative measures to minimize the potential for spread. The location of Invasive species identified in proximity to planned primary forest activities will be displayed on activity maps and site specific measures for invasive species will be included in activity prescriptions. These measures will be presented / reviewed during forestry activity pre-works. Measures will include but are not limited to, the requirement for workers to check and remove invasive plants and or seeds from their persons and from equipment employed during forestry operations, prior to commencing activities.</li> <li>6) During primary forestry activities movement of soil or ballast/fill materials from a location where invasive species have been identified as present is not permitted.</li> <li>7) If infestations occur that can be reasonably determined to be a result of the Licensee’s primary forest activities, invasive plant materials (plants and seeds), it will be the Licensee responsibility to take measures to eliminate the occurrence and reduce the spread.</li> </ol> <p>Sites referred to in subparagraph (f), following implementation of the control measures, will be monitored annually until the invasive plant infestation is controlled or eliminated.</p>
--	---

If invasive species occurrences are noted within the Community Forest tenure area that are not a result of the Licensee’s activities, the occurrences will be reported and efforts will be made to work with the relevant stakeholders/responsible parties to eliminate the occurrence.

## 2.15. Natural Range Barriers

Section 18 of the FPPR states “For the purpose of Section 48 of the Act, a person who prepares a forest stewardship plan must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.”

There are no range tenures within the Squamish FDU.

<b><i>Applicable Forest Development Unit(s)</i></b>	<b><i>No Results or Strategies Required</i></b>
Squamish FDU	As there are no range tenures in the FDU covered by this FSP, no results or strategies are required.

## 3. Stocking Standards

### 3.1.1. *Stocking Standard Tables Overview*

Stocking standards are a set of criteria for planting and reforestation of a harvested area that the Licensee is responsible to implement. The FSP specifies the Stocking Standards for the FDUs to which the FSP applies (FPPR s. 16). Stocking standards are developed by the Licensee and approved by the Provincial Government under this FSP to facilitate the establishment of a free-growing stand, as required under Section 44 of the FPPR.

Stocking standards criteria include identification of the preferred and acceptable species permitted to be grown on a harvested area, the target and minimum density of regenerating trees, the minimum height and freedom from competition that regenerating trees must attain, and the timeframe within which a harvested area must attain both regeneration and free-growing status.

Stocking standards have been developed for each biogeoclimatic zone, subzone, variant and site series combination found within the Squamish FDU and are presented in Appendices A1-A4. The stocking standards and related ecological footnotes are consistent with the BC Ministry of Forests Reference Guide for Forest Development Stocking Standards – Vancouver Forest Region (updated March 2019).

Stocking Standards will be applied at the cutblock level through prescription of the specific standard in a site plan prepared by a Qualified Person. The site plan will describe the pre-harvest stand structure and the post-harvest conditions required to achieve the desired post-harvest stand structure and any associated objectives.

As per Section 44 of the FPPR, the Licensee intends to apply stocking standards to individual cutblocks, rather than across multiple cutblocks collectively, as permitted under Section 45 of the FPPR.

### 3.1.2. *Stocking Standards for Specific Site Conditions or Objectives*

As per and the “Sea to Sky Natural Resource District Manager’s Expectations Letter” (2016), new stocking standards for climate change, wildfire management, wildlife management and forest health were considered for this FSP.

The proposed stocking standards in this FSP reflect the expected influence of climate change as per the Reference Guide for Stocking Standards (March 2019).

This FSP presents even aged stocking standards that are appropriate for use on Wildfire Urban Interface (WUI) areas, generally defined as those areas within 2km of residences or significant industrial infrastructure, where development of stand structural conditions that provide for reduced risk of wildfire is the desired objective. Within the Squamish Community Forest wildfire stocking standards have been developed for the CWHdm, as this BEC zone is present across the majority of the WUI within Community Forest. The FSP also includes retention and partial cut stocking standards for use on appropriate sites where management objectives include promotion of post-harvest conditions which reduce both the risk of and the potential severity of a wildfire, if one were to occur on the site.

The use of “single entry dispersed retention stocking standards” (SEDRESS) or “intermediate cut stocking standards” (described below) are also appropriate as wildfire management standards.

SEDRESS and intermediate cut stocking standards are also appropriate for use in areas where uneven-aged forest management – in which retained stems within a harvested area contribute to regeneration and free growing obligations - is required to achieve other non-timber objectives.



There are no site-specific stocking standards proposed to address forest health as there are no significant forest health issues currently affecting the Squamish FDU. Root diseases and dwarf mistletoe are endemic across the Community Forest land base at low levels. The even aged stocking standards and the WUI stocking standards proposed in this FSP are sufficiently diverse, containing tree species immune and resistant to common root diseases and mistletoe, to allow for use in areas where root diseases or mistletoe is present. The presence of these common diseases will be identified through the block Site Plan document and the reforestation section of the document will specify the stocking standard to be applied, the location of the forest health issue and the specific species mix to be planted within identified locations to manage forest health issues.

### **3.1.3. Forest Health and Drought Stocking Standards**

#### **Forest Health Adaptations Stocking Standards**

There are typically no major large-scale forest health issues within the Squamish FDU, but localized concerns arise sporadically from root rot diseases such as laminated root rot (*Phellinus weirii*) and armillaria root disease (*Armillaria ostoye*). Hemlock dwarf mistletoe, although rarely causing mortality, can result in growth declines, stem damage and decreased timber qualities if infestations are significant.

In accordance with the guidance for assessing FSP stocking standards' alignment with addressing immediate and long term forest health issues (MFLNRO 2012) the following strategies are proposed to manage contiguous areas of greater than 10% of a block Net Area to Reforest (NAR) or greater than 1.0ha (for blocks exceeding 10.0ha), where significant forest health concerns from root disease or hemlock dwarf mistletoe exist.

#### **Root Disease**

Following an assessment by a Qualified Person, where root rot infected areas are identified on areas planned for primary forestry activities, appropriate measures to manage the infection will be prescribed in accordance with *Managing Root Disease in British Columbia (2018)*. The preferred approach to managing root diseases at the stand level, will be to employ mechanical stumping treatments (pulling stumps with ground-based machinery) on identified areas of infection following harvesting completion and prior to reforestation activities. Stumping treatments may be prescribed by a Qualified Person on any identified root rot area of infection, regardless of size. Stumping treatments will be prescribed at the site level, through the individual site plan prepared for the block and the appropriate approved stocking standard for the BEC subzone and site series will be applied to the regenerating stand.

For root rot infections that occur on areas where stumping is not an option, due to lack of access for the ground-based machinery required to complete stumping treatments, planting of resistant species within known root rot areas may be utilized as an alternative to stumping. Areas subject to planting of resistant species with a contiguous area of greater than 10% of the block Net Area to Reforest (NAR) or greater than 1.0ha (for blocks exceeding 10.0ha) will be identified by a Qualified Person through the block site plan as a distinct root rot Standards Unit (SU) and will apply the following revisions to the appropriate BEC subzone and site series stocking standard assigned to the root rot SU:

- Depending on the specific root disease present, vulnerable tree species will be limited to a combined total of 40% of the well-spaced / free growing density. Vulnerable tree species are defined as either Highly or Intermediately Susceptible tree species for each root disease listed in *Managing Root Disease in British Columbia (2018)*.

#### **Hemlock Dwarf Mistletoe**

On sites where pre-harvest planning identifies Hemlock Dwarf Mistletoe is present at high levels, clear-cut sanitation logging will be utilized and slashing of all regen layer western hemlock (<3.0m tall) will be completed during the primary harvesting phase to reduce the incidence of mistletoe in the regenerating stand. Prior to the use of a clear-cut system a Qualified Person will assess the

site to determine if there are other resource values present on site which would be unacceptably impacted under a clearcut system. Where mistletoe is present and where overstory retention is required for the management of other forest resource values, retention will be prescribed to be marked in a manner that retains as few overstory infected hemlock stems as practicable. On these sites retention will be marked in the following order of priority - species not susceptible to Hemlock dwarf mistletoe will be selected first for retention, followed by healthy hemlock stems with no obvious signs of mistletoe infection. Hemlock stems with obvious symptoms of mistletoe infection will only be marked for retention where non-susceptible species or uninfected hemlock are not available. All Hemlock regen layers (<3m) will be slashed to ground during harvest. On sites where hemlock regen layers have been slashed, where retention is required and where infected hemlock results in BA less than 20m<sup>2</sup>/ha of infected overstory trees remaining post-harvest, the appropriate approved FSP stocking standard for the BEC zone and site series will be applied with no restrictions. On sites where hemlock regen layers have been slashed, where retention is required and where infected hemlock results in BA greater than 20m<sup>2</sup>/ha of infected overstory trees remaining post-harvest, the following revisions to the appropriate BEC subzone and site series stocking standards will be applied:

- Hw and Hm will be limited to 20% of the well-spaced / free growing density.
- Hw and Hm will not be considered a preferred or acceptable species within 15m of an infected overstory tree within or adjacent to the block.

### ***Drought***

No specific stocking standards are proposed or required to address drought. Due to the location of the community forest within the maritime seed planning zone there are no specific drought prone sites identified and specific Stocking Standards to address drought are not required.

### ***3.1.4. Even-Aged Stocking Standards for Wildfire Management***

Two approaches to even aged stand management to reduce wildfire risk are proposed.

For stands within the WUI where timber production is identified as a primary objective, the even aged stocking standard, approved for the BEC zone / site series combination present on the site will be applied by a qualified professional. A footnote has been added to these specific SSID's which identifies that when the site to which the standard is applied falls within the WUI, then a maximum density of total conifer stems per ha which are permitted to be present on the block at the time of Free Growing assessment will be applied. When an assessment survey identifies that the maximum permitted number of stems is exceeded, then the block will be assessed for wildfire risk / management options and a spacing / fuel reduction treatment will be prescribed and completed, prior to free growing declaration. The final spaced density will be determined by the qualified professional completing the assessment and preparing the treatment prescription.

For stands where wildfire risk / hazard management is identified as the primary objective, even aged stocking standards have been developed. It is anticipated that these standards would only be applied on harvested areas falling within the Wildland Urban Interface (WUI) that have elevated values at risk or are in close proximity (500m) to homes or significant infrastructure. These standards, when applied, will promote development and maintenance of stand structure which reduces the likelihood of crown fire initiation and/or minimizes the risk of a continuous crown fire in the future stand. Wildfire management stocking standards have been developed for the CWHdm which represents the BEC zone covering the WUI area within the Community Forest. Stocking standards have been developed for each relevant BEC zone / site series combination expected within the WUI. The even-aged wildfire management stocking standards include the use of both broadleaf and conifer species. Species selected for the standards are ecologically adapted to the sites but are not necessarily expected to maximize timber production when used as part of a fire management stocking standard.

Where even-aged WUI fire management stocking standards are applied to achieve wildfire management objectives, the block site plan must describe the desired post-harvest stand structure and provide clear objectives for the management of harvesting debris and forest fuels

on site. The block site plan must include identification of any timing for future stand tending assessments or treatments to address the desired stand structure and wildfire management objectives.

The even-aged stocking standards for wildfire management are presented in Appendix A1.

### **3.1.5. Single Entry Dispersed Retention Stocking Standard [SEDRESS]**

The SEDRESS may only be applied to cutblocks that meet the following criteria:

- Dispersed retention is required to achieve the following non-timber objectives.
  - To develop and maintain forest stand conditions that achieve fire management objectives by reducing the likelihood of crown fire and/or fast-moving high intensity ground fire.
  - Spotted Owl WHAs (either managed future or long term owl habitat types);
  - Stands with high value habitat for wildlife species that would benefit from a retained overstory;
  - Visually sensitive areas (i.e. VLI polygons with a VQO of Retention, or other visually sensitive area identified during planning or consultation process);
  - Stands with forest health issues that would benefit from a retained overstory.
- Partial cut harvesting will occur with the retained overstory stems contributing towards regeneration and free growing obligations, and
- Dispersed retention Residual Basal Area (RBA) will range from 9 to 39m<sup>2</sup> / ha.

Where SEDRESS is applied to achieve wildfire management objectives, the block site plan prepared by a Qualified Person must describe the desired post-harvest stand structure and provide clear objectives for the management of harvesting debris and forest fuels on site. The block site plan must include identification of and timing for any future stand tending treatments to address wildfire management.

The SEDRESS is presented in Appendix A2, with damage criteria for the SEDRESS in Appendix A3.

### **3.1.6. Intermediate Cut Stocking Standard**

Intermediate cuts are a stand tending entry to remove merchantable trees prior to a second pass or to achieve a residual stand structure that has a reduced risk of wildfire ignition, spread and severity. Following the initial harvest entry, the stand will continue to develop towards the desired stand structure, described by the block site plan. Two potential intermediate cut systems may be utilized to achieve both wildfire management and management of non-timber objectives:

- **Commercial Thinning** - partial cuts in immature stands where trees have reached a merchantable size.
- **Single Stem Harvesting** – partial cuts to remove pole size stems while retaining the dominant overstory and existing understory / advanced regen layers.

For harvesting in these types, the following information must be identified and documented in the block site plan:

- The preferred and acceptable species of trees.
- The planned residual basal area or density per hectare
- The species and function of retained stems towards satisfying non-timber resource objectives.

When intermediate cut harvest methods are used to achieve wildfire management objectives, the block site plan prepared by a Qualified Person must describe the desired post-harvest stand structure and provide clear objectives for the management of harvesting debris and forest fuels on the site. The site plan must include identification of and the timing for any future stand tending or second pass harvesting treatments that will be required.

Intermediate Cut Stocking Standards may only be applied where the management of non-timber values is the primary objective, and/or in areas where other silviculture systems are not practical. Specifically, intermediate cut stocking standards will only be applied on cutblocks that meet the following criteria:

- Dispersed retention is required to achieve the following non-timber management objectives:
  - To develop and maintain forest stand conditions that achieve fire management objectives by reducing the likelihood of crown fire and/or fast moving, high intensity ground fire.
  - Spotted owl WHAs (either Managed Forest or Long-Term Owl Habitat);
  - Stands with high value wildlife habitat for other species that would benefit from a retained overstory;
  - Visually sensitive areas (i.e. VLI polygons with a VQO of Retention or other visually sensitive area identified during the planning and consultation process)
  - Stands with forest health issues that would benefit from a retained overstory.
- Terrain stability may be compromised by utilizing another silviculture system;
- Significant windthrow damage would occur by utilizing another silviculture system;
- Harvest activities will not negatively impact site productivity, as determined by a Qualified Person.

In addition, openings will not be created that are greater than 0.1ha in size, and the residual stand will be substantially representative of the original stand in terms of species composition, health, form and vigor.

The Intermediate Cut Stocking Standard is presented in Appendix A4.

### **3.1.7. Specifications of Situations and Circumstances under S.16 (FPPR)**

S. 44(1) of the FPPR applies to the Squamish FDU where the holder of the FSP is required to establish a free growing stand.

The applicable stocking standards, regeneration dates and free growing heights referred to in s. 44(1)(a) and (b) of the FPPR are described in Appendix A and are applicable to the Squamish FDU, where the holder of the FSP proposes to conduct harvesting operations.

S. 45(1) and (2) of the FPPR will not apply to any of the Squamish FDU within this FSP.

With respect to S.16(4) of the FPPR, which refers to S.44(4) and harvesting timber in the circumstances addressed by S.44(3)(h)(i), the holder of this FSP will develop site and circumstance specific stocking standards which will be submitted for approval as an FSP Amendment.

### **3.1.8. Amendments**

In accordance with FRPA section 197(5), the holder of this FSP specifies that it may choose to amend the stocking standards for silviculture prescriptions or site plans that are already in existence to conform to this FSP.

## **Appendix A1 – Even-Aged Stocking Standards and Stocking Standards for Specific Site Conditions**

**A1 - Stocking Standards with Preferred and Acceptable Species**

BEC				STOCKING (WELL SPACED)							PREFERRED SPECIES										ACCEPTABLE SPECIES										NOTES	
BGCZ	SZ	V A R	SS	TARGET STG (SPH)	MIN. PREF & ACC (SPH)	MIN. PREF (SPH)	MIN. INTER-TREE DIST. (M)	RD (YRS)	FG (YRS)	HT RELATIVE TO COMP. %	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT		
CWH	dm		01	900	500	400	2	3	20	150	FDC	3.00	CW	1.50	HW	3.00							PW	2.50							HW13,PW31,ALL612,ALL623,ALL626	
CWH	dm		02	400	200	200	2	3	20	150	FDC	2.00	PLC	1.25									--	--							ALL520;ALL612;ALL623;ALL626	
CWH	dm		03	800	400	400	2	3	20	150	FDC	2.00											CW	1.00	HW	2.00					ALL612;ALL623;ALL626	
CWH	dm		04	900	500	400	2	3	20	150	FDC	3.00											PW	2.50	HW	3.00	CW	1.50			PW31;ALL612;ALL623;ALL626	
CWH	dm		05	900	500	400	2	3	20	150	FDC	4.00	CW	2.00									PW	2.50	BG	3.50	HW	4.00			PW31;BG47;ALL612;ALL623;ALL626	
CWH	dm		06	900	500	400	2	6	20	150	CW	1.50	HW	3.00									FDC	3.00							FDC1;ALL612;ALL623	
CWH	dm		07	900	500	400	2	3	20	150	FDC	4.00	CW	2.00									BG	3.50	HW	4.00					PW31;HW71;ALL612;ALL623	
CWH	dm		08	900	500	400	2	3	20	150	CW	2.00	BG	3.50									--	--							FDC1;BG47;ALL612;ALL623	
CWH	dm		09	900	500	400	2	3	20	150	CW	2.00											BG	3.50							BG1;BG47;CW1;ALL612;ALL623	
CWH	dm		11	400	200	200	2	3	20	150	PLC	1.25											CW	1.00							PLC1;CW1;ALL520;ALL612;ALL623	
CWH	dm		12	800	400	400	2	3	20	150	CW	1.00											HW	2.00	SS	3.00	PW	2.50			CW1;HW1;PW31;SS35;SS613;ALL612;ALL623	
CWH	dm		13	900	500	400	2	3	20	150	CW	2.00	BG	3.50	FDC	4.00							--	--							FDC1;BG47;ALL612;ALL623	
CWH	dm		14	900	500	400	2	3	20	150	CW	2.00	BG	3.50									--	--							BG1;BG47;CW1;ALL612;ALL623	
CWH	dm		15	800	400	400	2	3	20	150	CW	1.00											--	--							CW1;ALL612;ALL623	
																																CW1;PLC7;ALL612;ALL623
CWH	vm	1	01	900	500	400	2	6	20	150	CW	1.50	HW	3.00	FDC	3.00	BA	1.75					--	--							FDC9;BA13;BA47;ALL612;ALL623	
CWH	vm	1	02	400	200	200	2	3	20	150	PLC	1.25	CW	1.00	FDC	2.00							HW	2.00							FDC9;BA47;ALL612;ALL623	
CWH	vm	1	03	800	400	400	2	6	20	150	CW	1.00	HW	2.00	FDC	2.00							PLC	1.25							FDC9;PLC53;ALL612;ALL623	
CWH	vm	1	04	900	500	400	2	3	20	150	CW	1.50	HW	3.00	FDC	3.00							BA	1.75							FDC9;BA13;BA47;ALL612;ALL623	
CWH	vm	1	05	900	500	400	2	3	20	150	BA	1.75	CW	1.50	FDC	3.00	HW	3.00					SS	3.00							FDC1;FDC9;FDC16;BA47;SS35;SS613;ALL612;ALL623	
CWH	vm	1	06	900	500	400	2	6	20	150	CW	1.50	HW	3.00	BA	1.75							--	--							FDC9;BA47;ALL 612; ALL 623	
CWH	vm	1	07	900	500	400	2	3	20	150	BA	1.25	CW	2.00	HW	4.00	FDC	4.00					SS	4.00							FDC9;SS35;SS613;BA47;ALL612;ALL623	
CWH	vm	1	08	900	500	400	2	3	20	150	BA	2.25	CW	2.00	HW	4.00							SS	4.00							FDC9;SS35;SS613;BA47;ALL 612;ALL 623	
CWH	vm	1	09	900	500	400	2	3	20	150	BA	2.25	CW	2.00	HW	4.00							--	--							FDC9;BA47;ALL612;ALL623	
CWH	vm	1	10	900	500	400	2	3	20	150	CW	2.00											BA	2.25	SS	4.00					FDC9;CW1;BA1;BA47;SS1;SS35;SS613;ALL612;ALL623	
CWH	vm	1	12	800	400	400	2	3	20	150	CW	1.00	HW	2.00	YC	1.00							PLC	1.25							FDC9;CW1;HW1;YC1;PLC1;ALL612; ALL623	
CWH	vm	1	13	400	200	200	2	3	20	150	PLC	1.25											CW	1.00							FDC9;PLC1;CW1;ALL520;ALL612;ALL623	
CWH	vm	1	14	800	400	400	2	3	20	150	CW	1.50											HW	3.00	SS	3.0					FDC9;CW1;HW1;SS1;SS35;ALL612;ALL623	
																																CW14;FDC1;FDC9;FDC14;HM13;YC13;SS35;SS613;BA 47;ALL612;ALL623
CWH	vm	2	01	900	500	400	2	6	20	150	CW	1.50	HW	2.50	YC	1.50	BA	1.50					SS	3.00	FDC	2.25	HM	1.00			CW14;FDC1;FDC9;FDC14;HM13;YC13;SS35;SS613;BA 47;ALL612;ALL623	
CWH	vm	2	02	400	200	200	2	3	20	150	PLC	1.25	CW	1.00	FDC	1.50	YC	1.00					HW	1.75							FDC9;ALL520;ALL612;ALL623	
CWH	vm	2	03	800	400	400	2	6	20	150	CW	1.00	HW	1.75	FDC	1.50	YC	1.00					PW	2.50							FDC9;PW31;ALL612;ALL623	
CWH	vm	2	04	900	500	400	2	6	20	150	CW	1.00	HW	1.75	FDC	1.50	YC	1.00					BA	1.50	PW	2.50	HM	1.00			FDC9;PW1;PW31;HM13;BA47;ALL612;ALL623	
CWH	vm	2	05	900	500	400	2	3	20	150	CW	1.50	HW	2.50	YC	1.50	BA	1.75					FDC	2.25	SS	3.00	HM	1.00			FDC1;FDC9;FDC14;HM13;SS35;SS613;BA47;ALL612; ALL623	
CWH	vm	2	06	900	500	400	2	6	20	150	CW	1.50	HW	2.50	YC	1.50	BA	1.75					HM	1.00							BA47;HM13;ALL612;ALL623	
CWH	vm	2	07	900	500	400	2	3	20	150	CW	2.00	HW	3.50	YC	2.00	BA	2.25					SS	4.00	HM	1.00					BA47;HM13;SS35;SS613;ALL612;ALL623	
CWH	vm	2	08	900	500	400	2	3	20	150	CW	2.00	HW	3.50	YC	2.00	BA	2.25					SS	4.00	HM	1.00					BA47;HM13;SS35;SS613;ALL612;ALL623	
CWH	vm	2	09	800	400	400	2	3	20	150	CW	1.00	HW	1.75	YC	1.00							BA	1.50	HM	1.75					CW1;HW1;YC1;BA47;HM13;ALL612;ALL623	
CWH	vm	2	10	400	200	200	2	3	20	150	PLC	1.25	YC	1.00									HM	1.75							PLC1;YC1;ALL520;ALL612;ALL623	
CWH	vm	2	11	800	400	400	2	3	20	150	CW	1.00	YC	1.00									HW	1.75	HM	1.75					CW1;YC1;HW1;ALL612;ALL623	

BEC				STOCKING (WELL SPACED)							PREFERRED SPECIES										ACCEPTABLE SPECIES								NOTES		
BGC ZONE	SZ	V A R	SS	TARGET STG (SPH)	MIN. PREF & ACC (SPH)	MIN. PREF (SPH)	MIN. INTER-TREE DIST. (M)	RD (YRS)	FG (YRS)	HT RELATIVE TO COMP. %	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	SPP	MIN HT	NOTES
MH	mm	1	01	900	500	400	2	7	20	125	BA	0.60	HM	1.00	YC	1.00															CW14;HW14;BA47;ALL612;ALL623
MH	mm	1	02	800	400	400	2	4	20	125	HM	0.75	YC	0.75																	BA47;ALL612;ALL623
MH	mm	1	03	900	500	400	2	4	20	125	BA	0.60	HM	1.00	YC	1.00															BA47;HW14;ALL612;ALL623
MH	mm	1	04	900	500	400	2	7	20	125	BA	0.60	HM	1.00	YC	1.00															BA47;HW14;ALL612;ALL623
MH	mm	1	05	900	500	400	2	4	20	125	BA	0.60	YC	1.00																	BA47;HW14;ALL612;ALL623
MH	mm	1	06	800	400	400	2	7	20	125	HM	0.75	YC	0.75																	HM1;YC1;BA1;BA47;ALL612;ALL623
MH	mm	1	07	900	500	400	2	4	20	125	BA	0.60	YC	0.75																	BA1;BA47;YC1;HM1;ALL612;ALL623
MH	mm	1	08	400	200	200	2	4	20	125	HM	0.75	YC	0.75																	HW14;HM1;YC1;ALL520;ALL612;ALL623
MH	mm	1	09	800	400	400	2	4	20	125	YC	0.75																			HW14;YC1;HM1;ALL612;ALL623

**Wildfire Management Stocking Standards with Preferred and Acceptable Species**  
**Even Aged Management Stocking Standards for use within the Wildland Urban Interface (WUI)**

Stocking Standards ID	Biogeoclimatic Information			Preferred Species												Acceptable Species										Stocking			Min. Inter-Tree Distance	Regeneration Delay (yrs)	Late Free Growing (yrs)	Ht. Relative to Comp. (%)	Max. Density			Additional Standards or Comments
	Biogeoclimatic Zone	Biogeoclimatic Subzone and Variant	Site Series	Preferred Species #1	Preferred Species #1 Height	Preferred Species #2	Preferred Species #2 Height	Preferred Species #3	Preferred Species #3 Height	Preferred Species #4	Preferred Species #4 Height	Preferred Species #5	Preferred Species #5 Height	Preferred Species #6	Preferred Species #6 Height	Acceptable Species #1	Acceptable Species #1 Height	Acceptable Species #2	Acceptable Species #2 Height	Acceptable Species #3	Acceptable Species #3 Height	Acceptable Species #4	Acceptable Species #4 Height	Acceptable Species #5	Acceptable Species #5 Height	Target (P & A)	Minimum (P & A)	Minimum (P)					Maximum (s/ha)	Post Spacing Minimum (s/ha)	Post Spacing Maximum (s/ha)	
	CWH	dm	01	Fdc	3.00	Cw	1.50	Hw	3.00	-	-	-	-	-	-	Mb	2.00	Act	2.00	Dr	2.00					900	400	300	2.0	3	20	100	1500	400	1000	ALL612, ALL623
	CWH	dm	02	Fdc	2.00	Plc	1.30	-	-	-	-	-	-	-	-	Ep	2.00	-	-	-	-	-	-	-	-	400	300	200	2.0	3	20	100	800	200	600	ALL612, ALL623
	CWH	dm	03	Fdc	2.00	Ep	2.00	-	-	-	-	-	-	-	-	Dr	2.00	-	-	-	-	-	-	-	-	600	400	300	2.0	3	20	100	900	300	700	ALL612, ALL623
	CWH	dm	04	Fdc	3.00	Hw	2.50	Dr	2.00	Mb	2.00	-	-	-	-	Pw	2.30	Cw	2.50	Act	3.00	-	-	-	-	800	400	300	2.0	3	20	100	1000	400	800	ALL612, ALL623
	CWH	dm	05	Fdc	4.00	Cw	2.00	Dr	2.00	Act	2.00	-	-	-	-	Mb	2.00	Ep	2.00	-	-	-	-	-	-	800	400	300	2.0	3	20	100	1000	400	800	ALL612, ALL623

Rational for wildfire management stocking standards:

- The objective of the wildfire management stocking standards is to reduce the likelihood of crown fire initiation through creation of a stand with reduced canopy bulk density and increased fire resistance.
- Height over brush percentages have been reduced to allow broadleaf species to occur on site which would reduce fire behavior.
- The block site plan will specify the timing for specific prescribed stand tending treatments that will be required to be completed to promote increased fire resistance. These treatments will include management of harvesting and stand treatment slash, understory vegetation management, crown lifting and stem density reduction treatments.
- Trees which contribute to maximum density calculations are dominant and co-dominant trees and must be at least 50% the free growing height of the tallest primary species.



**Table 1. Tree Species Codes and Footnote Descriptions**

Tree Species Codes	Footnote#	Footnote	Footnote#	Footnote
Ba means amabilis fir;	1	elevated microsites are preferred	32	limited by growing-season frosts
Bg means grand fir;	2	retired	33	footnote retired and replaced with footnote 'a'
Bl means subalpine fir;	3	restricted to coarse-textured soils	34	risk of snow damage
Bp means noble fir;	4	restricted to medium-textured soils	35	risk of weevil damage
Cw means western red cedar;	5	footnote retired	36	retired
Fd means Douglas-fir;	6	restricted to nutrient-very-poor sites	37	retired
Hm means mountain hemlock;	7	restricted to nutrient-medium sites	38	footnote retired
Hw means western hemlock;	8	restricted to steep slopes	39	retired
"Lt" means tamarack;	9	restricted to southerly aspects	40	risk of redheart
Lw means western larch;	10	restricted to northerly aspects	41	limited by poorly drained soils
"Pa" means whitebark pine;	11	restricted to crest slope positions	42	restricted to fresh soil moisture regimes
Pl means lodgepole pine;	12	suitable on cold air drainage sites	43	retired
Pw means white pine;	13	restricted to upper elevations of biogeoclimatic unit	44	suitable in areas with stronger maritime influence
Py means ponderosa pine;	14	restricted to lower elevations of biogeoclimatic unit	45	suitable in areas with stronger continental influence
"Sb" means black spruce;	15	restricted to northern portion of biogeoclimatic unit in region	46	restricted to area north of the Dean Channel
"Se" means Engelmann spruce;	16	restricted to southern portion of biogeoclimatic unit in region	47	risk of balsam wooly adelgid – applies to all Abies species in subzones within the regulated quarantine area ( <a href="http://www.al.gov.bc.ca/cropprot/balsamwa.htm">http://www.al.gov.bc.ca/cropprot/balsamwa.htm</a> )
Ss means Sitka spruce;	17	restricted to western portion of biogeoclimatic unit in region	48	risk of heavy browsing by deer
"Sw" means white spruce;	18	restricted to eastern portion of biogeoclimatic unit in region	49	retired
Sx means hybrid spruce or interior spruce;	19	retired	50	restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
Sxs means hybrid Sitka spruce;	20	retired		
"Sxw" means hybrid white spruce;	21	retired	51	restricted to areas with proven PI performance
Yc means yellow cedar.	22	restricted to southern Gardner Canal-Kitlope area	52	restricted to sheltered microsites with deep soil
Broadleaf Tree Species	23	retired	53	minor component
"Acb" means balsam poplar;	24	suitable (as a major species) in wetter portion of BGCunit	54	retired
"Act" means black cottonwood;	25	retired	55	retired
"At" means trembling aspen;	26	suitable minor species on salal-dominated sites	#	<b>Broadleaf Management Constraints</b>
"Dr" means red alder;	27	partial canopy cover required for successful establishment	a	productive, reliable, and feasible regeneration option
"Ep" means common paper birch;	28	limited by moisture deficit	b	limited in productivity, reliability and/or feasibility
"Mb" means bigleaf maple;	29	risk of heavy browsing by moose		<b>Localized Footnotes</b>
"Qg" means garry oak;	30	risk of porcupine damage	60	Squamish forest district - species is acceptable in Squamish forest district only.
"Ra" means arbutus;	31	risk of white pine blister rust	61	retired
Other Notes			71	Suitable on sites where spp is >35% of the pre-harvest stand

Footnote 520: Avoid Logging

Footnote 612: MITD reduction to 1.5m can be applied in circumstances where irregular spacing is required to maximize the number of acceptable well-spaced stems. Specific examples include sites with high slash levels, colluvial sites, sites where obstacle planting techniques are employed to reduce snow, vegetation press or animal damage, sites where shade is imperative to seedling survival, sites with high water tables and limited / irregularly distributed productive sites or root rot areas where stump avoidance techniques may be employed.

Footnote 613: Ss acceptable only southwest portion of the district.

Footnote 614: Py acceptable only in northeast portion of the district.

Footnote 623: As per the procedures utilized in the 1999 Squamish Forest District trial, the conifer height to brush ratio in a fireweed complex can be lowered to 100% for Fdc and Plc and 80% for the other species. Acceptable conifer performance will be verified by meeting height to diameter ratio at ground level of less than or equal to 50 for Fdc and Plc and less than or equal to 40 for other species.

Footnote 624: For use on High Value Grizzly Bear Forage Types where a cluster planting strategy is to be employed.

Footnote 625: For use on sites with severely drought-prone sites where at least two plantation failures have occurred due to demonstrated drought-induced mortality, supported by a rationale prepared by a QRP.

Footnote 626: When used within the Wildfire Urban Interface (WUI), as identified in a block site plan, a maximum conifer density of 2000 sph applies. Prior to Free Growing an assessment of stem density is to be completed. If maximum density is exceeded, then a wildfire fuel reduction spacing treatment is to be developed, prescribed and implemented prior to free growing assessment and declaration.

## Appendix A2 - Single Entry Dispersed Retention Stocking Standards

Single Entry Dispersed Retention Stocking Standards may only be applied on cutblocks that meet the following criteria:

- Dispersed retention is required to achieve the following non-timber management objectives:
  - Spotted owl WHAs (either Managed Future or Long-Term Owl Habitat type);
  - Stands with high value habitat for other wildlife species that would benefit from a retained overstory;
  - Visually sensitive areas (i.e. VLI polygons with a VQO of Retention, or other visually sensitive area identified during the planning or consultation process);
  - Stands with forest health issues that would benefit from a retained overstory.
- Partial cut harvesting will occur with the retained overstory stems contributing towards regen and free growing obligations, and
- Dispersed retention Residual Basal Area (RBA) will range from 9 to 39 m<sup>2</sup>/ha.

The following stocking standards are meant to replace the multi-storied stocking standards:

BEC Zone	Layers	Pref. / Acc. Spp.	MITD	Regen Delay	FG Declaration Delay	Comp. Brush Factor	Min Ht	Damage Criteria
As per FSP Single-Story Stocking Standards	<b>Residual Overstory</b> (Layer 1 ≥ 12.5cm DBH)	As per FSP Single-Story Stocking Standards	N/A	As per FSP Single-Story Stocking Standards	Minimum 2 years	N/A	N/A	As per SEDRSS Damage Criteria for Layer 1
	<b>Understory</b> (Layers 2,3&4 <12.5cm DBH)		From Layer 1= <b>Dripline</b> <sup>1</sup>  Between Layers 2,3&4= <b>2.0m</b>					As per FSP Single-Story Stocking Standards

<sup>1</sup>The dripline is defined as “the vertical boundary of the outside of the outer live foliage of the overstory tree”. An understory tree is considered outside the dripline if “the main stem pith of the understory stem is outside of the dripline as defined above”. Overstory stems (regardless if counted as a crop tree) inside and outside of survey plots are used to determine the dripline.

The SU is found to have met its Regen Obligation or Free Growing Obligation if the following criteria in the following Tables have been met. The tables reference the Deviation from Potential (DFP) concept of assessing the understory’s performance under various overstory canopy densities. Refer to the Single Entry Dispersed Retention Stocking Standard Framework Implementation Guides for further details.

All stems considered to be crop trees in this methodology must meet or exceed the damage criteria for both Layer 1 stems and Layers 2, 3, and 4 stems (separate damage criteria tables have been developed for each stand structure component). These criteria are found in Appendix A3 following the DFP tables.

**For Old-Growth Sites Managing for Fdc Regeneration  
(for use on CWH sites with SI <28 only)**

DFP Threshold Value	Obligation Standard
Average DFP	0.2 or less
Proportion of plots in “stocked” class (below green on DFP table below)	≥ 60% and
Proportion of plots in “partial stocked” class (yellow)	≤ 40% and
Proportion of plots in “open” class (above red on DFP table)	≤ 20%

BA of Overstorey crop trees ≥ 12.5 cm dbh	Understorey density – well spaced sph.								
	0	200	400	600	800	1000	1200	1400	1600
0	1.00	0.76	0.52	0.34	0.22	0.13	0.07	0.03	0.00
1	0.98	0.74	0.51	0.34	0.21	0.13	0.07	0.03	0.00
2	0.96	0.73	0.50	0.33	0.21	0.13	0.07	0.03	0.00
3	0.93	0.71	0.49	0.32	0.20	0.12	0.07	0.03	0.00
4	0.90	0.68	0.47	0.31	0.20	0.12	0.06	0.03	0.00
5	0.86	0.65	0.45	0.30	0.19	0.11	0.06	0.02	0.00
6	0.82	0.62	0.43	0.28	0.18	0.11	0.06	0.02	0.00
7	0.77	0.58	0.40	0.27	0.17	0.10	0.05	0.02	0.00
8	0.72	0.55	0.38	0.25	0.16	0.09	0.05	0.02	0.00
9	0.67	0.51	0.35	0.23	0.15	0.09	0.05	0.02	0.00
10	0.62	0.47	0.32	0.21	0.14	0.08	0.04	0.02	0.00
11	0.57	0.43	0.30	0.20	0.12	0.07	0.04	0.02	0.00
12	0.52	0.39	0.27	0.18	0.11	0.07	0.04	0.01	0.00
13	0.47	0.35	0.24	0.16	0.10	0.06	0.03	0.01	0.00
14	0.42	0.32	0.22	0.15	0.09	0.05	0.03	0.01	0.00
15	0.38	0.28	0.20	0.13	0.08	0.05	0.03	0.01	0.00
16	0.33	0.25	0.17	0.11	0.07	0.04	0.02	0.01	0.00
17	0.29	0.22	0.15	0.10	0.06	0.04	0.02	0.01	0.00
18	0.26	0.19	0.13	0.09	0.06	0.03	0.02	0.01	0.00
19	0.22	0.17	0.12	0.08	0.05	0.03	0.02	0.01	0.00
20	0.19	0.14	0.10	0.07	0.04	0.02	0.01	0.01	0.00
21	0.16	0.12	0.08	0.06	0.04	0.02	0.01	0.00	0.00
22	0.13	0.10	0.07	0.05	0.03	0.02	0.01	0.00	0.00
23	0.11	0.08	0.06	0.04	0.02	0.01	0.01	0.00	0.00
24	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00
25	0.07	0.05	0.04	0.02	0.02	0.01	0.00	0.00	0.00
26	0.05	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00
27	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00
28	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
29	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
30 <sub>(1)</sub>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

## For Second Growth Sites Managing for Fdc Regeneration

DFP Threshold Value	Obligation Standard
Average DFP	≤ 0.26
Proportion of plots in “open” class (shaded pink on DFP table)	≤ 25%

OS	Species (may vary per Zone & Site Series)	WS Stems/ha	DFP Table																
			Fdc over Fdc/Hw																
			0.0	100.0	200.0	300.0	400.0	MSS				TSS				1000.0	1100.0	1200.0	1300.0
BA m2/ha	WS Stems/plot	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
0			1.00	0.77	0.59	0.45	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01
1			0.95	0.72	0.55	0.42	0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01
2	Fdc*, Hw		0.89	0.69	0.52	0.40	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01
3	Cw		0.85	0.65	0.50	0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01
4			0.80	0.62	0.47	0.36	0.28	0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01
5	*N aspect		0.76	0.58	0.45	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01
6	no Fdc		0.72	0.55	0.42	0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01
7			0.69	0.53	0.40	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01
8			0.65	0.50	0.38	0.29	0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01
9			0.62	0.48	0.37	0.28	0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01
10			0.59	0.46	0.35	0.27	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
11			0.57	0.43	0.33	0.26	0.20	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
12	Hw		0.54	0.42	0.32	0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
13	Fdc* & Cw		0.52	0.40	0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
14	Max		0.50	0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01
15	200/ha		0.48	0.37	0.28	0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01
16			0.46	0.35	0.27	0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
17			0.44	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
18	Hw		0.42	0.32	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
19			0.41	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
20	Cw Max		0.39	0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
21	200/ha		0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01
22	(no Fdc)		0.37	0.28	0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01
23			0.36	0.27	0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
24			0.35	0.26	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
25			0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
26	Hw		0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
27			0.32	0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
28	(no Fdc & no Cw)		0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
29			0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
30			0.29	0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
31			0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
32			0.28	0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00
33			0.28	0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
34			0.27	0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
35			0.27	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
36			0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
37			0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
38			0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
39			0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
40			0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
41			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
42			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
43			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
44			0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
45			0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
46			0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
47			0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
48			0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
49			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
50			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
51			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
52			0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
53			0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
54			0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
55			0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
56			0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
57			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
58			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
59			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
60			0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

## For Old Growth Cw/Hw Sites Managing for Cw/Hw Regeneration

DFP Threshold Value	Obligation Standard
Average DFP	0.32 or less
Proportion of plots in “open” class (shaded red on DFP table)	≤ 25%

BA of Overstorey crop trees ≥ 12.5 cm dbh	Understorey density – well spaced sph.												
	0	100	200	300	400	500	600	700	800	900	1000	1200	1400
0	1.00	0.81	0.65	0.51	0.41	0.32	0.25	0.20	0.15	0.12	0.09	0.05	0.03
1	0.98	0.79	0.63	0.50	0.40	0.31	0.25	0.19	0.15	0.12	0.09	0.05	0.03
2	0.95	0.77	0.62	0.49	0.39	0.31	0.24	0.19	0.15	0.11	0.09	0.05	0.02
3	0.93	0.75	0.60	0.48	0.38	0.30	0.23	0.18	0.14	0.11	0.08	0.05	0.02
4	0.90	0.73	0.59	0.46	0.37	0.29	0.23	0.18	0.14	0.11	0.08	0.05	0.02
5	0.88	0.71	0.57	0.45	0.36	0.28	0.22	0.17	0.13	0.10	0.08	0.04	0.02
6	0.85	0.69	0.55	0.44	0.35	0.27	0.22	0.17	0.13	0.10	0.08	0.04	0.02
7	0.83	0.67	0.54	0.43	0.34	0.27	0.21	0.16	0.13	0.10	0.08	0.04	0.02
8	0.80	0.65	0.52	0.41	0.33	0.26	0.20	0.16	0.12	0.10	0.07	0.04	0.02
9	0.78	0.63	0.50	0.40	0.32	0.25	0.20	0.15	0.12	0.09	0.07	0.04	0.02
10	0.76	0.61	0.49	0.39	0.31	0.24	0.19	0.15	0.12	0.09	0.07	0.04	0.02
11	0.73	0.59	0.47	0.38	0.30	0.24	0.18	0.14	0.11	0.09	0.07	0.04	0.02
12	0.71	0.58	0.46	0.36	0.29	0.23	0.18	0.14	0.11	0.08	0.06	0.04	0.02
13	0.69	0.56	0.45	0.35	0.28	0.22	0.17	0.14	0.11	0.08	0.06	0.04	0.02
14	0.67	0.54	0.43	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.03	0.02
15	0.64	0.52	0.42	0.33	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.03	0.02
16	0.62	0.51	0.40	0.32	0.25	0.20	0.16	0.12	0.10	0.07	0.06	0.03	0.02
17	0.60	0.49	0.39	0.31	0.25	0.19	0.15	0.12	0.09	0.07	0.05	0.03	0.02
18	0.58	0.47	0.38	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.05	0.03	0.02
19	0.56	0.46	0.37	0.29	0.23	0.18	0.14	0.11	0.09	0.07	0.05	0.03	0.01
20	0.55	0.44	0.35	0.28	0.22	0.18	0.14	0.11	0.08	0.06	0.05	0.03	0.01
21	0.53	0.43	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.01
22	0.51	0.41	0.33	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.05	0.03	0.01
23	0.49	0.40	0.32	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04	0.03	0.01
24	0.48	0.39	0.31	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.02	0.01
25	0.46	0.37	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.05	0.04	0.02	0.01
26	0.44	0.36	0.29	0.23	0.18	0.14	0.11	0.09	0.07	0.05	0.04	0.02	0.01
27	0.43	0.35	0.28	0.22	0.17	0.14	0.11	0.08	0.07	0.05	0.04	0.02	0.01
28	0.41	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.02	0.01
29	0.40	0.32	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.05	0.04	0.02	0.01
30	0.39	0.31	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.05	0.04	0.02	0.01
31	0.37	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.01
32	0.36	0.29	0.23	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.01
33	0.35	0.28	0.22	0.18	0.14	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.01
34	0.34	0.27	0.22	0.17	0.14	0.11	0.08	0.07	0.05	0.04	0.03	0.02	0.01
35	0.32	0.26	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
36	0.31	0.25	0.20	0.16	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
37	0.30	0.24	0.19	0.15	0.12	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
38	0.29	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.03	0.01	0.01
39	0.28	0.23	0.18	0.14	0.11	0.09	0.07	0.06	0.04	0.03	0.03	0.01	0.01
40	0.27	0.22	0.17	0.14	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.01	0.01

## **Appendix A3 – Damage Criteria for Single Entry Dispersed Retention Stocking Standard**

**FG DAMAGE CRITERIA FOR SINGLE ENTRY DISPERSED RETENTION STOCKING STANDARD (SEDRSS) MANAGED STANDS IN COASTAL B.C.**

Note: this table overrides all other damage criteria for SEDRSS managed stands

**TABLE A- Layer 1 -  $\geq$  12.5 cm DBH. SEDRSS damage criteria**

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:		Possible damage agents & codes	Comments																													
		Hw, Ba, Bg, Bl, Cy, Fdc, Ss, Pw, Pl	Cw																															
Stem	Wound	<ul style="list-style-type: none"> <li>Wound girdles &gt;33% stem circumference, or</li> <li>One wound &gt;400 cm<sup>2</sup> on stem, or</li> <li>Wound on major root within 1 m of stem, or</li> <li>Tree has <b>gouge</b> in stem.</li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> </ul>	fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TT.	A wound is defined as an injury in which the cambium is dead (e.g., sunscald) or completely removed from the tree exposing the sapwood. Measure the wound across the widest point of the exposed sapwood (or dead cambium when the tree is damaged by sunscald). Healed over wounds (=scars) are acceptable.																													
Stem	Decay	<ul style="list-style-type: none"> <li>Any pathological indicator(s) are present. This may include <b>conk, blind conk, frost crack, or rotten branches.</b></li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> </ul>	various decay fungi DD																														
Stem	Bark Mining	<ul style="list-style-type: none"> <li>Any of the following signs are visible: pitch tubes, boring dust, exit holes on bark surface, galleries under the bark.</li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> </ul>	Douglas-fir beetle IBD, Ips pini IBI, Pityogenes & Pityophthorus IBP	Note: pitch tubes can be associated with trees that have successfully repelled bark beetles, bark must be removed above pitch tube to confirm successful attack (successful galleries will be filled with frass and not pitch, contain adult beetles and/or larval galleries).  Stressed trees are susceptible to secondary bark and twig beetles.																													
Stem	Deformation (including crook, fork and dead or broken top)	<ul style="list-style-type: none"> <li>A crook displaces the portion of the stem above the defect by &gt;50% from the line of growth formed by the stem below the point of defect in the bottom 2/3rds of the stem only.</li> <li>A fork occurs above stump height in the bottom 2/3rds of the stem only.</li> <li>A dead or broken top extends more than 20% of the stem length or the live crown is removed.</li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> <li>A dead tree with no live foliage</li> <li>&lt; 2/3rds of the stem unable to produce &gt; 50% merchantable volume.</li> </ul>	frost NG, hail NH, snow NY, drought ND, logging TL, mechanical TT, Dwarf mistletoes (see below).	Note: Field guidance procedures for the estimation of merchantable Cw volume are identified in Appendix 1.																													
Stem	Dwarf Mistletoe Infection	<ul style="list-style-type: none"> <li>Hawksworth rating &gt;3, or severe stem infections (major swelling or deformity) present.</li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> </ul>	hemlock dwarf mistletoe DMH	The Hawksworth rating system is described in the FPC <i>Dwarf Mistletoe Management Guidebook</i> (or refer to Appendix AA of this document) For SEDRSS, this rating system will only apply to the tree/plot assessment level, and not at the stand level.																													
Foliage	Defoliation	<p>For defoliating insects:</p> <ul style="list-style-type: none"> <li>&gt; 80% of foliage has been removed, lost or damaged due to insect defoliation.</li> </ul> <p>For foliar diseases:</p> <ul style="list-style-type: none"> <li>&gt; 50% of foliage has been removed, lost or damaged</li> </ul>	<ul style="list-style-type: none"> <li>No criteria</li> </ul>	defoliators ID, foliage diseases DF																														
Foliage	Live Crown Vigour	<ul style="list-style-type: none"> <li>Stems &lt; 17.5 cm dbh - &lt; 30% live crown due to poor vigour.</li> <li>Stems <math>\geq</math> 17.5 cm dbh - &lt; 20% live crown due to poor vigour.</li> </ul>	<ul style="list-style-type: none"> <li>A dead tree with no live foliage</li> </ul>		Percent live crown is the length of continuous green foliage on a tree expressed as a percentage of its total height.																													
Roots	Root Disease	<ul style="list-style-type: none"> <li>Sign(s) or definitive combinations of symptoms of root disease are observed</li> <li>Infected conifer or stump found in plot. See Table Y for well-spaced tree net down calculation by layer.</li> </ul>	<ul style="list-style-type: none"> <li>For Cw, there is no criterion for net down calculation - considered not susceptible or low susceptibility.</li> </ul>	<p>armillaria root disease DRA, laminated root rot DRL, annosus root disease DRN.</p> <p>armillaria root disease DRA, laminated root rot DRL, annosus root disease DRN.</p>	<p>Signs are direct evidence of the pathogenic fungus including fruiting bodies, distinctive mycelium or rhizomorphs. Symptoms include foliar thinning or chlorosis, pronounced resin flow near the root collar, reduced recent leader growth, a distress cone crop, and wood decay or stain. Symptoms alone are not usually sufficient to identify root disease. Both signs and symptoms may be detected from old stumps, root balls, or other post-harvest remains.</p> <p><b>Example:</b> How to apply net down for root disease.</p> <p>If root disease-infected trees are found in the plot:</p> <ol style="list-style-type: none"> <li>Determine the number of healthy, well-spaced trees in each layer using the prescribed minimum inter-tree distance (MITD) (e.g., 3 layer 1, 3 layer 3 and 4 layer 4 = 10 healthy, well-spaced) ignoring the M-value;</li> <li>Count the number of infected trees (e.g., 1 layer 1 tree and 1 layer 3 tree);</li> <li>Working from the uppermost layer down, apply the multiplier in Table Y to each lower layer. Subtract the resultant from each layer in turn, for susceptible species only (e.g., if all trees are susceptible, 1 infected layer 1 tree removes 1 healthy, well-spaced layer 1 tree plus 3 layer 3 trees plus 4 layer 4 trees). Note the effects are cumulative, not exclusive and lower layers do not affect higher layers;</li> </ol> <p>Calculate the remaining healthy, well-spaced trees once all removals due to infected trees are completed (e.g. 10 - 8 = 2). The result is the maximum number of free growing trees tallied for the plot.</p>																													
		<p><b>TABLE Y. Deductions from numbers of acceptable well-spaced uninfected stems for trees infected by root disease in layered stands.</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Tree layer with infected tree(s) or stumps</th> <th colspan="4">Multiplier used to determine number of acceptable trees to be deducted from:</th> </tr> <tr> <th>Layer 1</th> <th>Layer 2</th> <th>Layer 3</th> <th>Layer 4</th> </tr> </thead> <tbody> <tr> <td>Layer 1</td> <td>Deduct BA of infected layer 1 from Crop BA</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Layer 2</td> <td></td> <td>2</td> <td>2</td> <td>3</td> </tr> <tr> <td>Layer 3</td> <td></td> <td></td> <td>2</td> <td>2</td> </tr> <tr> <td>Layer 4</td> <td></td> <td></td> <td></td> <td>2</td> </tr> </tbody> </table>				Tree layer with infected tree(s) or stumps	Multiplier used to determine number of acceptable trees to be deducted from:				Layer 1	Layer 2	Layer 3	Layer 4	Layer 1	Deduct BA of infected layer 1 from Crop BA	2	3	4	Layer 2		2	2	3	Layer 3			2	2	Layer 4				2
Tree layer with infected tree(s) or stumps	Multiplier used to determine number of acceptable trees to be deducted from:																																	
	Layer 1	Layer 2	Layer 3	Layer 4																														
Layer 1	Deduct BA of infected layer 1 from Crop BA	2	3	4																														
Layer 2		2	2	3																														
Layer 3			2	2																														
Layer 4				2																														

**TABLE B- Layers 2, 3 & 4 - < 12.5 cm DBH. SEDRSS damage criteria**

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host Species	Possible damage agents & codes	Comments
Stem	Wound	<ul style="list-style-type: none"> <li>Wound girdles &gt;25% stem circumference, or</li> <li>One wound &gt;10% the length of stem</li> </ul>	All	fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TT.	A wound is defined as an injury in which the cambium is dead (e.g., sunscald) or completely removed from the tree exposing the sapwood. Measure the wound across the widest point of the exposed sapwood (or dead cambium when the tree is damaged by sunscald). Healed over wounds (=scars) are acceptable.
Stem	Decay	<ul style="list-style-type: none"> <li>Any pathological indicator(s) are present. This may include conk, blind conk, frost crack, or rotten branches.</li> </ul>	All	various decay fungi DD.	
Stem	Bark Mining	<ul style="list-style-type: none"> <li>Any of the following signs are visible: pitch tubes, boring dust, exit holes on bark surface, galleries under the bark.</li> </ul>	All	Douglas-fir beetle IBD, Ips pini IBI, Pityogenes & Pityophthorus IBP	Note: pitch tubes can be associated with trees that have successfully repelled bark beetles, bark must be removed above pitch tube to confirm successful attack (successful galleries will be filled with frass and not pitch, contain adult beetles and/or larval galleries).  Stressed trees are susceptible to secondary bark and twig beetles.
Stem	Deformation (including crook, fork and dead or broken top)	<ul style="list-style-type: none"> <li>The pith is horizontally displaced more than 30 cm from the point of defect and originates above 30 cm from the point of germination</li> </ul>	All	defoliators ID, white pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP,	This criterion applies only for terminal weevil damage.  Leader dominance occurs when the tallest leader is at least 5 cm taller than the second tallest leader. See Appendix AA on Damage Types.
		<ul style="list-style-type: none"> <li>The tree leader has been killed three or more times in the last 5 years (weevil only)</li> </ul>	Ss	cattle AC, deer AD, elk AE, moose AM, frost NG, hail NH,	
		<ul style="list-style-type: none"> <li>The tree has two or more leaders with no dominance expressed after five years growth and the fork originates above 30 cm from the point of germination.</li> <li>The tree has a dead or broken top at a point that is &gt; 3cm in diameter.</li> <li>The tree has a flat top (umbrella like) form and no distinct leader.</li> </ul>	All	snow NY, drought ND, logging TL, mechanical TT, Dwarf mistletoes (see below).	
Stem	Lean and Sweep	<ul style="list-style-type: none"> <li>The tree leans &gt;30° from the vertical with or without growth correction.</li> </ul>	All	Flooding NF, snow NY, slides NS, wind NW, mechanical TM	
Stem	Infection (includes cankers and galls)	<ul style="list-style-type: none"> <li>Any infection occurs on the stem.</li> </ul>	All	white pine blister rust DSB, atropellis canker DSA, Dwarf mistletoes (see below).	Note: Wounds caused by sodan feeding around rust cankers should have stem rust recorded as the causal agent.
Branch	Infection (cankers)	<ul style="list-style-type: none"> <li>An infection occurs on a live branch less than 60 cm from the stem.</li> </ul>	Pw, Pl, Py	white pine blister rust DSB, comandra blister rust DSC, stactiform blister rust DSS.	
		<ul style="list-style-type: none"> <li>A Fdc bacterial canker infection occurs on a Fdc stem that affects &gt;25% of stem circumference.</li> </ul>	Fdc	Fdc bacterial canker DS	
Branch	Galls	<ul style="list-style-type: none"> <li>A gall rust infection occurs on a live branch less than 5 cm from the stem.</li> </ul>	Pl, Py	western gall rust DSG.	
Foliage	Defoliation	<ul style="list-style-type: none"> <li>&gt;60% tree foliage has been removed by hemlock looper</li> </ul>	Hw	Hemlock looper IDL	
		<ul style="list-style-type: none"> <li>&gt; 80% of foliage has been removed, lost or damaged due to insect defoliation.</li> </ul>	All other	defoliators ID	
		<ul style="list-style-type: none"> <li>&gt; 50% of foliage has been removed, lost or damaged due to foliar disease.</li> </ul>	All	foliage diseases DF	
Foliage	Live Crown Vigour	<ul style="list-style-type: none"> <li>&lt;30% live crown present due to poor vigour.</li> </ul>			Percent live crown is the length of continuous green foliage on a tree expressed as a percentage of its total height.
Stem or Branch	Adelgid Gouting	<ul style="list-style-type: none"> <li>Any adelgid gouting occurs on a stem or branch.</li> </ul>	Ba, Bg, BI	balsam woolly adelgid IAB.	Gouting is defined as excessive swelling on a branch or shoot caused by balsam woolly adelgid, and is often accompanied by misshapen needles and buds. It is most common on branch tips and at nodes near the ends of branches. Consult a recent distribution map to identify the geographic extent of this pest.
Stem or Branch	Dwarf Mistletoe Infection	<ul style="list-style-type: none"> <li>Any infection occurs on the stem or a live branch, or</li> <li>A susceptible tree is located within 10 m of the bole of a higher layer tree that is infected with dwarf mistletoe.</li> </ul>	Hw	hemlock dwarf mistletoe DMH	Note: To confirm infection, the surveyor must observe mistletoe aerial shoots or basal cups on regeneration or on live or dead fallen brooms.



Roots	Root Disease	<ul style="list-style-type: none"> <li>Sign(s) or definitive combinations of symptoms of root disease are observed</li> </ul>	All	<p>armillaria root disease DRA, laminated root rot DRL, annosus root disease DRN.</p>	<p>Signs are direct evidence of the pathogenic fungus including fruiting bodies, distinctive mycelium or rhizomorphs. Symptoms include foliar thinning or chlorosis, pronounced resin flow near the root collar, reduced recent leader growth, a distress cone crop, and wood decay or stain. Symptoms alone are not usually sufficient to identify root disease. Both signs and symptoms may be detected from old stumps, root balls, or other post-harvest remains.</p>
		<ul style="list-style-type: none"> <li>Infected conifer or stump found in plot. See <b>Table Y</b> for well-spaced tree net down calculation by layer.</li> </ul>	All	<p>armillaria root disease DRA.</p>	<p><b>Example:</b> How to apply net down for root disease. If root disease-infected trees are found in the plot:</p> <ol style="list-style-type: none"> <li>Determine the number of healthy, well-spaced trees in each layer using the prescribed minimum inter-tree distance (MITD) (e. g., 3 layer 1, 3 layer 3 and 4 layer 4 = 10 healthy, well-spaced) ignoring the M-value;</li> <li>Count the number of infected trees (e. g., 1 layer 1 tree and 1 layer 3 tree);</li> <li>Working from the uppermost layer down, apply the multiplier in Table Y to each lower layer. Subtract the resultant from each layer in turn, for susceptible species only (e. g., if all trees are susceptible, 1 infected layer 1 tree removes 1 healthy, well-spaced layer 1 tree plus 3 layer 3 trees plus 4 layer 4 trees). Note the effects are cumulative, not exclusive and lower layers do not affect higher layers;</li> </ol> <p>Calculate the remaining healthy, well-spaced trees once all removals due to infected trees are completed (e. g. 10 – 8 = 2). The result is the maximum number of free growing trees tallied for the plot.</p>
		<ul style="list-style-type: none"> <li>Infected conifer or stump found in plot. See <b>Table Y</b> for well-spaced tree net down calculation by layer.</li> </ul>	Fd, Ba, Bg	<p>laminated root rot DRL.</p>	<p>Note: Bl, Cw, Pl, Pw, and broadleaf species are considered <b>not susceptible</b> for survey purposes only</p>
		<ul style="list-style-type: none"> <li>Infected conifer or stump found in plot. See <b>Table Y</b> for well-spaced tree net down calculation by layer.</li> </ul>	Ba, Hw, Ss	<p>annosus root rot DRN.</p>	<p>Note: Bg, Bl, Cw, Cy, Fd, Hm, Pl, Pw, and broadleaf species are considered <b>not susceptible</b> for survey purposes only.</p>

## Appendix A4 - Intermediate Cut Stocking Standards

Intermediate cuts are a stand-tending entry to remove merchantable trees prior to the final harvest, after which the stand continues to develop with enhanced quality and/or growth of the remaining trees. Two potential intermediate cut activities may be utilized:

- **Commercial Thinning:** partial cut in immature stands where trees have reached a merchantable size.
- **Single Stem Harvesting:** partial cut to remove pole-sized stems.

For these types of harvesting, the following information must be provided:

- the preferred and acceptable species of trees
- the planned residual basal area or density per hectare
- the species and function of any trees to be left standing to satisfy non-timber resource objectives.

Intermediate Cut Stocking Standards may only be applied where the management of non-timber values is the primary objective, and/or in areas where other silviculture systems are not practical. Specifically, intermediate cut stocking standards will only be applied on cutblocks that meet the following criteria:

- Dispersed retention is required to achieve the following non-timber management objectives:
  - Spotted owl WHAs (either Managed Forest or Long-Term Owl Habitat type);
  - Stands with high value habitat for other wildlife species that would benefit from a retained overstory;
  - Visually sensitive areas (i.e. VLI polygons with a VQO of Retention, or other visually sensitive area identified during the planning or consultation process);
  - Stands with forest health issues that would benefit from a retained overstory.
- Terrain stability may be compromised by utilizing another silviculture system;
- Cultural heritage features may be compromised by utilizing another silviculture system;
- Significant windthrow damage would occur by utilizing another silviculture system;
- Harvest activities will not negatively impact site productivity, as determined by a Qualified Person;

In addition, openings will not be created that are greater than 0.1ha in size, and the residual stand will be substantially representative of the original stand in terms of species composition, health, form, and vigour.

The following stocking standards are to be applied in intermediate cut situations:

BEC Zone	Layers	Pref. / Acc. Spp.	MITD	Regen Delay	FG Delay	Comp. Brush Factor	Min. Ht.	Min. BA Retained	Damage Criteria
As per FSP Single-Story Stocking Standards	<b>Residual Overstory</b> (Layer 1 ≥ 12.5cm DBH)	As per FSP Single-Story Stocking Standards	N/A	N/A	1 Year	N/A	N/A	35m <sup>2</sup> /ha	As per SEDRSS Damage Criteria for Layer 1

## Appendix B - FSP Maps

<b>Map Number</b>	<b>Map Title (1:30,000 scale)</b>
1	Overview and Access
2	Forest Cover and Ecological Units
3	Cultural Features, Water, Wildlife
4	Recreation
5	Visuals
6	Commercial Recreation Tenures
7	Other Tenures and Stakeholders

## **Appendix C - Orders Establishing Landscape Units and Land Use Objectives**

**Order to Establish a Landscape Unit and Objectives – East  
Howe Landscape Unit**



File: ORCS 17580-55/East Howe

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

**EAST HOWE LANDSCAPE UNIT**

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, I hereby establish the East Howe Landscape Unit, an area located on the east side of Howe Sound, Squamish Forest District, effective August 20, 2003.

The boundaries of the East Howe Landscape Unit are shown on the map, dated June 5, 2003 attached to this Order.

In addition, I hereby establish objectives for the East Howe Landscape Unit, as attached to this Order, effective August 20, 2003.

(Original signed by)

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

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

## Legal Objectives for the East Howe Landscape Unit

Pursuant to section 4 of the *Forest Practices Code of British Columbia Act*, the following are landscape unit objectives for the East Howe Landscape Unit. 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 forest attributes in designated old growth management areas (OGMAs), as shown on the attached East Howe Landscape Unit map dated June 5, 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 but not limited to the following:
  - (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 CWHdm,
    - b) 35 ha in variant CWHvm2,
    - c) 55 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; 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 OGMA: #6, 7, and 35.

**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 maintain adequate amounts of wildlife tree patches to ensure that over each 2 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) BEC subzones will be determined by site plan information.

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

BEC Subzone	Total Wildlife Tree Retention (%)
CWH dm (Coastal Western Hemlock, dry maritime)	5
CWH vm (Coastal Western Hemlock, very wet maritime)	10
MH mm (Mountain Hemlock, moist maritime)	7





# Land Use Objectives for the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, Sloquet South Landscape Units

## PROVINCE OF BRITISH COLUMBIA

### Ministry of Forests, Lands and Natural Resource Operations

#### Ministerial Order

#### Land Use Objectives for the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, Sloquet South Landscape Units, located in the Sea to Sky 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 old-growth management areas (OGMAs) within the Lizzie, Mamquam, Tuwasus, Sloquet High, Sloquet North, and Sloquet South Landscape Units (LUs), as shown in the maps set out in Schedule A and contained in the old-growth management area spatial layer stored in the Geographic Warehouse (WHSE\_LAND\_USE\_PLANNING.RMP\_OGMA\_LEGAL\_CURRENT\_SVW).
- 2) If there is a discrepancy between the areas shown in the maps attached as Schedule A and the OGMA spatial layer stored in the Geographic Warehouse (WHSE\_LAND\_USE\_PLANNING.RMP\_OGMA\_LEGAL\_CURRENT\_SVW), the areas as detailed in the OGMA spatial layer will take precedence.
- 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

The Objectives for Old Growth Management Areas (OGMAs) are as follows:

- 1) Retain trees in the OGMAs identified in Schedule A, except to fell trees where necessary for any of the following:
  - (a) To prevent insect infestations or diseases posing a significant threat to forest health;
  - (b) To remove an identified safety hazard within road right-of-ways, recreation sites, or trails;
- 2) Retain trees in the OGMAs identified in Schedule A, except to fell an area of trees where necessary for any of the following:
  - (a) To enable a safe falling boundary on a block immediately adjacent to the OGMA;
  - (b) To enable road or bridge construction for access to resource values beyond or adjacent to the OGMA, and no other practicable option for road or bridge location exists;
  - (c) To improve guyline clearance, tailholds, or tiebacks for guylines;
  - (d) To improve wind firmness along block boundaries.
- 3) The area of trees felled in an OGMA as provided in Part 2 (2) will not exceed the lesser of:
  - (a) Two hectares, or
  - (b) Five percent of the OGMA area.
- 4) The provisions in Part 2 (1) and (2) do not apply to the following OGMAs:  
Lizzie LU: SRY\_321\_002, SRY\_321\_007, SRY\_321\_011, SRY\_321\_018, SRY\_321\_025, SRY\_321\_039.  
Mamquam LU: SRY\_309\_55, SRY\_309\_006, SRY\_309\_077, SRY\_309\_035, SRY\_309\_102, SRY\_309\_110, SRY\_309\_112.

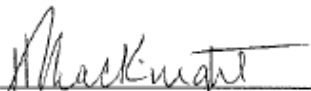
**PROVINCE OF BRITISH COLUMBIA**

**Part 3 – Identification of Replacement Area and Communication**

- 1) The trees felled under Part 2 (1) are to be left on-site to function as coarse woody debris, except where they pose a significant risk to forest health.
- 2) The licensee will identify an equivalent area of trees to replace the area of trees felled under Part 2 (2), and ensure each of the following conditions are met:
  - (a) The replacement area of trees is equal or greater to the area of trees felled,
  - (b) The replacement area of trees has equivalent or better stand attributes (i.e. age, site index, species distribution) than the area of trees felled, and
  - (c) The replacement area of trees is located according to the following order of priority:
    - (i) Connected to the OGMA subject to activities pursuant to Part 2 (2), in the same BEC variant;
    - (ii) Connected to a nearby OGMA in the same BEC variant;
    - (iii) A new area of trees located as close as is practicable to the OGMA subject to activities pursuant to Part 2 (2), in the same BEC variant.
- 3) The licensee will provide notice and documentation of the proposed area of trees felled under Part 2 (2), in addition to the proposed equivalent area of trees to replace the area of trees felled, to the district office with cutting permit, road permit, or other tenure application. Notice and documentation should include:
  - (a) A description of the proposed area and characteristics of trees to be removed from the OGMA;
  - (b) A description of the proposed replacement area and characteristics of trees required in accordance with Part 3 (1); and
  - (c) Spatial data (i.e. GIS shape files) to identify the proposed area of trees felled from the OGMA and the proposed replacement area of trees.

**Part 4 - Effective Date and Transition**

This order and the Objectives in this order take effect on the date that notice of this order is published in the BC Gazette.

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

*October 30, 2014*  
Date  
(MM/DD/YY)

## **Appendix D - ORDERS AND NOTICES**

- **NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE SQUAMISH FOREST DISTRICT (2004)**
- **ORDER - GOAT WINTER RANGE #U2-002**
- **ORDER - UNGULATE WINTER RANGE #U2-005**
- **ORDER - GRIZZLY BEAR WHA #2-272 TO 2-297, 2-381 TO 2-386, 2-388, 2-390 TO 2-406, 2-436 TO 2-443**
- **ORDER - MARBLED MURRELET WHA #2-303 TO 2-306, 2-308, 2-309 & 2-316**
- **NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF MARBLED MURRELET**
- **MINISTERIAL ORDER – ORDER FOR THE RECOVERY OF MARBLED MURRELET**
- **MINISTERIAL ORDER M424 – SCENIC AREA AND VISUAL QUALITY OBJECTIVES FOR THE SHANNON CREEK WATERSHED**

# NOTICE - SURVIVAL OF SPECIES AT RISK



December 30, 2004

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN  
THE SQUAMISH 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 Squamish Forest District.

Schedule 1

**1) Marbled Murrelet (*Brachyramphus marmoratus*)**

***Amount:***

1. An amount equal to the total amount of currently suitable nesting habitat in the non-contributing landbase. Government policy for determining the amount of suitable nesting habitat is provided in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004);
2. An amount of suitable Marbled Murrelet nesting habitat within Old Growth Management Areas consistent with the direction from landscape unit planning; and
3. An amount of suitable nesting habitat to a maximum net mature timber harvesting landbase impact of 415 ha.

***Distribution:***

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable nesting habitat of the size and spatial distribution identified in the species account for Marbled Murrelet in the *Accounts and Measures for*



December 30, 2004

**NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF  
WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN  
THE SQUAMISH 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 Squamish Forest District.

Schedule 1

**1) Marbled Murrelet (*Brachyramphus marmoratus*)**

***Amount:***

1. An amount equal to the total amount of currently suitable nesting habitat in the non-contributing landbase. Government policy for determining the amount of suitable nesting habitat is provided in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004);
2. An amount of suitable Marbled Murrelet nesting habitat within Old Growth Management Areas consistent with the direction from landscape unit planning; and
3. An amount of suitable nesting habitat to a maximum net mature timber harvesting landbase impact of 415 ha.

***Distribution:***

1. The amount of habitat referenced above must be distributed to provide:
  - areas of suitable nesting habitat of the size and spatial distribution identified in the species account for Marbled Murrelet 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 Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

**Attributes:**

**Species:  
Marbled  
murrelet**

<b>Attribute</b>	<b>Characteristics</b>
Size	Maintain a balanced range of patch sizes including a mix of large (>200 ha), medium (50-200 ha) and small (<50 ha) patches within managed forests. The area should include vertical canopy complexity,
Tree Features	Large branches or branches with deformities, and presence of mossy platforms
Tree Species	It is unlikely that Marbled murrelets select particular tree species, however certain species are more likely to provide large horizontal platforms suitable for nesting. This includes yellow cedar, western hemlock, Sitka spruce, Douglas-fir and western red cedar. Less likely species include mountain hemlock and amabilis fir.
Nesting Habitat Features	Suitable nesting habitat includes old seral stage coniferous forests, providing large trees with platforms (limbs or deformities >15cm diameter) with variable canopy structure and small gaps in the canopy. Readily nest on steep slopes but is not essential if forest canopies are non-uniform.
Tree Size	Most nesting trees in BC are >200 yr. Nest trees are typically >40 m tall and nest heights are typically >30 m. Nest limbs range in size from 15-74 cm diameter.
Structural Stage	7: old forest (>250 yr - age class 9, but 8 is acceptable if older forest is not present and the age class 8 provides platform limbs and other nest attributes).
Additional information	Table 3 of the IWMS Version 2004 species account for Marbled Murrelet provides detailed information about the habitat features that are associated with most likely, moderately likely and least likely habitat within each of the Marbled Murrelet Conservation regions.

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

**Amount:**

1. 7280 ha with an impact to the mature timber harvesting landbase of approximately 385 ha.

**Distribution:**

1. The amount of habitat referenced above must be distributed in the Soo Timber Supply Area 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:**

**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 requirements 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) Coastal Tailed Frog (*Ascaphus truei*)**

**Amount:**

1. 40 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 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.

**4) 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 Squamish 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 Squamish 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 Squamish Forest District.

## ORDER - GOAT WINTER RANGE #U2-002

### ORDER – UNGULATE WINTER RANGE #U2-002

On being satisfied that the establishment of the ungulate winter range dealt with in this order is necessary to meet the habitat requirements of the ungulate species, and that the management objectives dealt with in this order are necessary to maintain the ungulate species within those areas, and under the authority of section 69 (1) (a) and (b) of the Operational and Site Planning Regulation, B.C. Reg. 107/98, the Deputy Minister of Water, Land and Air Protection orders that

1. the ungulate winter range shown in the map set out in the attached Schedule A (#U2-002) is established;
2. the ungulate winter range referred to in section 1 is approved for mountain goat (*Oreamnos americanus*); and
3. the following practices are established as management objectives inside the ungulate winter range referred to in section 1:

Maintain mountain goat winter ranges to provide high suitability habitat. Habitat attributes include snow interception, foraging opportunities, escape terrain, steep south and west-facing windswept ridges/slopes, conifer bluffs, shrub/grass communities, and security cover. This will be accomplished by applying the following specific management objectives to the proposed UWRs:

#### Objective 1

Road and trail construction and timber harvesting, including but not limited to, single tree selection and salvage topping for cone harvesting, will not be permitted within the GWRs, except as specified in section 1 and 2 below:

1. The MWLAP Statutory Decision Maker or designate, through the approval of a variance, may allow operations to occur within a GWR for reasons such as but not limited to the following:
  - a. Construction of roads and/or yarding corridors if no other practicable option exists.
  - b. Treatments to restore or enhance degraded habitats.
2. The following activities will be allowed to occur within a GWR subject to objective 2:
  - a. Maintenance and deactivation of existing roads.
  - b. Brushing or clearing along existing roads under active tenure within right of way for safety purposes.
  - c. Falling of guyline clearance, tailhold anchor trees or danger trees along right of way and cutblock boundaries, where the tree has been determined as a danger tree by a qualified Wildlife/Danger Tree Assessor, and the establishment of a No-work Safety Zone as per Worker's Compensation Board requirements is not practicable. Any trees that must be felled within a GWR will be left onsite to provide coarse woody debris.
  - d. Existing access agreements that were previously negotiated between industry and MWLAP will continue to be honoured.

**ORDER – UNGULATE WINTER RANGE #U2-002**

**Objective 2**

Where activities within a GWR have been approved by the MWLAP Statutory Decision Maker or designate or where exempted activities must occur, consistent with Objective 1, they shall be undertaken during a period extending from May 1 to October 31 of a calendar year, except as specified below:

1. The MWLAP Statutory Decision Maker or designate may permit industrial operations to occur within a GWR boundary for a period extending up to 4 weeks prior to May 1 and 4 weeks past October 31, where relevant site inspection data indicates that no impacts to Mountain Goats using the GWR will result from the extended operations; or
2. The MWLAP Statutory Decision Maker or designate may permit industrial operations to occur within a GWR boundary during some other specified period, where relevant site inspection data indicates that negative impacts to Mountain Goats using the GWR may result from operations occurring between May 1 and October 31 of a calendar year.

**ORDER - UNGULATE WINTER RANGE #U2-005 (Amended October 31, 2014)**



**ORDER – AMENDMENT TO UNGULATE WINTER RANGE U-2-005**  
**Black-tailed Deer and Moose – Sea to Sky Forest District**

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

1. The delegated decision maker, being satisfied that
  - i. the area contains habitat that is necessary to meet the winter habitat requirements for Black-tailed deer (*Odocoileus hemionus*) and Moose (*Alces americanus*); 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:
  - i. the Order that became effective February 28, 2005 entitled “Order – Ungulate Winter Range #U-2-005”; and
  - ii. the Order that became effective on November 6, 2008 entitled “Order – Amendment to Ungulate Winter Range U-2-005”;
- b) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) 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 ungulates in the Soo Timber Supply Area;
- c) the “retention” designation for Black-tailed deer unit G80-25-RE is canceled, and replaced with the amended “retention” unit G80-25-RE and amended “rotation” unit G80-25-RO as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse  
(WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY). The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;
- d) the “retention” designation for Black-tailed deer units G98-34-RE and J18-87-RE is canceled, and replaced with a “rotation” designation as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse  
(WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY). The amended units are renamed G98-34-RO and J18-87-RO. The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;
- e) the “rotation” designation for Black-tailed deer units J18-88-RO and J18-89-RO is cancelled, and replaced with a “retention” designation as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse  
(WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY). The amended units are renamed J18-88-RE and J18-89-RE. The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;
- f) the area described as “J28-205-RE” and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse  
(WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY), is

established as Black-tailed deer unit J28-205-RE of U-2-005. The centre point of the line on the attached Schedule A is what establishes the UWR boundary;

- g) the areas described as “J27-46-RE (cancelled)”, “J27/28-47-RO (cancelled)”, “G88-90-RE (cancelled)”, “G75-9-RO (cancelled)” and shown in the map set out in the attached Schedule A, being entirely protected under the provincial *Park Act*, are deleted and no longer part of the Order for UWR U-2-005;
  - h) the areas described as “G75-11-RO”, “J57-86-RE”, and “J26/27-201-RO” and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY), with portions being protected under the provincial *Park Act*, are amended;
  - i) the areas described as “J37-64-RO”, “J58-58-RO”, and “J58-59A-RO” and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY) with portions being in private land, are amended;
  - j) the Black-tailed deer unit J47-80-RE amended by the Order for UWR U-2-005 established November 6, 2008 and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY) remains unchanged and in effect;
  - k) the remaining Black-tailed deer and Moose units originally established by the Order for UWR U-2-005 on February 28, 2005 and shown in the map set out in the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY) remain unchanged and in effect ;
  - l) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A map and the UWR spatial layer stored in the Geographic Warehouse (WHSE\_WILDLIFE\_MANAGEMENT.WCP\_UNGULATE\_WINTER\_RANGE\_POLY), the areas as detailed in the UWR 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 winter habitat of Black-tailed deer and Moose; 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 U-2-005;

#### **Schedule 1:**

#### ***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.

**Deer Winter Range – Retention** means forested habitat, usually stands of mature or old-growth conifers, which provide deer with resources critical to survival during severe winters.

**Deer Winter Range – Rotation** means habitats in various stages of succession that provide deer winter habitat for survival and are usually located between retention winter range habitats when the distance between retention winter ranges is >4km; or in areas where there is a lower snow pack and known deer winter use.

**Director** means the Director of Resource Management, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations (FLNR).

**Functional Winter Range** means a narrow range of habitats that sustain deer over winter periods of extended stressful conditions. Functional winter range is important and is required during periods where snow can persist occasionally over extended periods of time.

**Incursion** means new timber harvesting or road construction that is located within a UWR boundary where no harvesting or road construction is otherwise permitted to occur.

**Moose Core Winter Range** means forested habitat, usually stands of mature or old-growth conifers, having very high winter forage values and/or good snow interception properties and are close to good moose forage values.

**Moose Winter Range Forage Management Zone** means habitat that is outside the Moose Core Winter Range that is managed for the production of winter moose forage.

**Productive forest area** means forest included as either contributing, partial contributing or non-contributing as per timber supply review planning.

**Traditional and cultural activities** are as defined in the *Free Use Permit Regulation of the Forest Act*.

**General Wildlife Measures:**

**Deer Winter Range – Retention units (DWRRE):**

1. No timber harvesting, including salvage, and road construction are permitted. Exemptions would only normally be considered for the purposes of enhancing quality of the DWRRE; or for roads where there is no other practicable option.
2. GWM 1 does not apply if:
  - a. it is necessary to create guyline tiebacks for timber harvesting outside of a DWRRE boundary;
  - b. trees felled in accordance with GWM 2 (a) are retained onsite to function as coarse woody debris, unless the felled tree:
    - i. lies outside the DWRRE boundary; or

Page 3 of 12

- ii. poses a forest health risk;
- c. cutting of trees is for the purpose of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*; or
- d. road maintenance activities, or road deactivation, or brushing and clearing activities occur on existing roads.

**Deer Winter Range – Rotation units (DWRRO):**

- 3. Maintain a minimum of 20% of the total DWRRO area in each unit as *functional winter range* at any one time. The functional winter range component must be spatially arranged to provide optimum ready access to forage and shelter for deer; and must be spatially identified prior to commencing harvesting.
- 4. Up to 20% of the total DWRRO area in each unit can be harvested every 20 years without restrictions as long as GWM 3 has been met.
- 5. The requirements of GWM 4 may be exceeded if Silviculture treatments, and timber harvesting including intermediate commercial thinning, are undertaken in the same DWRRO unit to enhance, create or expedite the production of functional winter range.

**Moose Core Winter Range (MCWR):**

- 6. Timber harvesting, including salvage, and road construction are not permitted. Exemptions would normally be considered for the purposes of enhancing the quality of the MCWR; or for roads where there is no other practicable option.
- 7. GWGWM 6 does not apply if:
  - a. it is necessary to create guyline tiebacks for timber harvesting outside of a MCWR boundary;
  - b. trees felled in accordance with GWM 7 (a) are retained onsite to function as coarse woody debris, unless the felled tree:
    - i. lies outside the MCWR boundary; or
    - ii. poses a forest health risk;
  - c. cutting of trees is for the purpose of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*; or
  - d. road maintenance activities, or road deactivation, or brushing and clearing activities occur on existing roads.

**Moose Winter Range Forage Management Zone (MWRFMZ):**

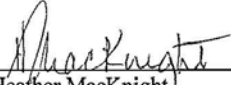
- 8. Timber harvesting, reforestation and stand tending (silviculture) operations in MWRFMZ are permitted if they will not cause a material adverse impact on the production of moose winter forage.



9. Timber harvesting will result in cut blocks where areas of forage production are  $\leq 200$  meters from a group of retained trees, an area of wildlife tree retention, or the cut block boundary.
10. Wildlife tree retention areas, or other groups of retained trees (up to 0.2 ha), planned within an area of timber harvesting, will be designed to provide patches of snow interception and security cover.

**Incursions:**

11. Where primary forest activities are planned immediately adjacent to any DWRRE or MCWR unit in U-2-005 with  $>30$  ha productive forest area, GWMs #1 or #6 respectively do not apply to the area of an incursion along the UWR unit 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; and
  - b. the area of the incursion, or multiple incursions cumulatively, do not exceed:
    - i. 1 ha of productive forest area in UWR units with  $>30$  ha and  $\leq 50$  ha productive forest area; or
    - ii. 2 ha of productive forest area in UWR units with  $>50$  ha to  $\leq 100$  ha productive forest area; or
    - iii. 3 ha or 1% of productive forest area, whichever is greater, in UWR units 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 UWR unit such that there is no net loss; and the incursion does not affect the intent or integrity of the UWR unit; and
  - d. boundaries of the incursion and any replacement habitat are provided to the Director (via ESRI shape files) prior to the commencement of primary forest activities associated with the incursion.

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

October 31, 2014.  
\_\_\_\_\_  
Date Signed

### **Appendix 1:**

The following information is provided by FLNR and Ministry of Environment (MoE) as background information and support to the Order amending UWR U-2-005. 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 Director of Resource Management, South Coast Region with a rationale describing the nature of the problem and options to integrate winter range 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. In the Soo Timber Supply Area two subspecies of Black-tailed deer occur. Coastal areas are occupied by Columbian Black-tailed deer (*Odocoileus hemionus columbianus*) while more interior habitats are occupied by Rocky Mountain mule deer (*O. h. hemionus*). The GWMs do not distinguish between the two subspecies.
4. Moose winter range is differentiated from deer winter range on the Schedule A map by colour. Labels for deer winter range "retention" and "moose core winter range" include a descriptor shown as "RE" (e.g. J28-49-RE). Labels for deer "rotation" and "moose winter range forage management zone" include a descriptor shown as "RO" (e.g. J28-53-RO).

5. Any maps produced by *Forest Act* agreement holders to spatially identify at least 20% functional winter range in DWRRO, or any mapping undertaken in support of timber harvesting in MWRFMZ, are to be kept on file and made available to a government official upon request. It is recommended that qualified professionals be engaged to help spatially define the functional winter range in DWRRO, or assist with planning in MWRFMZ.
6. Specific to GWM 4 in Deer Rotation Winter Range, where up to 20% of the total rotation polygon may be harvested every 20 years, the intent is to include any forest in the rotation winter range category that is <20 years old at the time of the assessment. The “up to 20% every 20 years” is not measured or tied to the Order date (i.e. every 20 years is not measured from 2005 to 2024, then 2025 to 2044). As an example, if a licensee in the year 2012 is considering a new cut block in a 100 ha rotation deer winter range and there is a 20 ha - 18 year old cut block already existing, then the 18 year old block is included as part of the 20%, and in this example no further regular harvesting would be allowed until the existing block was at least 20 years old. In the same example, if the 18 year old block was only 10 ha, then a further 10 ha could be harvested in 2012.
7. Guidance specific to GWM 3, 4, 5, 8, 9 and 10 is provided in Appendix 2.
8. The intent of GWM 11 is to facilitate pre-authorized boundary exemptions for those UWR retention or core units with >30 ha productive forest area provided that FLNR is notified prior to the incursion taking place.

Examples of incursions include a cut-block, road, trail or landing that overlaps an UWR boundary and: a) that the intent of the UWR 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); 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 winter range 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 UWR unit), it will result in no net loss to the winter range. Delineation of equal or better UWR habitat, in quantity and quality, will be required. A 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 UWR unit in question, the incursion cannot proceed under this GWM. Boundary amendments meeting the conditions identified in GWM 11 will be periodically reviewed by FLNR and MoE and the UWR boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 11 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

UWR retention or core units with <30 ha productive forest area are excluded from GWM 11 because of potential adverse impacts to the small amount of existing snow interception cover from an incursion. An exemption request for any of these small UWR units should be submitted to the Director of Resource Management as outlined under section 2 in this Appendix. Proponents are responsible for determining the amount of productive forest area (i.e. area of contributing, partial-contributing, or non-contributing forest as per the timber supply review) within all UWR units to determine which category they fit into in the GWM.

In addition to reporting incursions to the Director prior to commencement of activities as per GWM 11(d), it is the proponent's responsibility to keep accurate records of each occurrence. Records must also be made available to a government official upon request.

9. 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). Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements. Where safety considerations prevent following the GWMs, professionals should consider writing a rationale to explain the safety issue; and it should be kept on file.

**Appendix 2.**

The following information is provided by FLNR and Ministry of Environment (MoE) as background information and support to the Order amending UWR U-2-005. This appendix is not part of the Order.

**A. Deer Winter Range:**

**1. In meeting the requirement for GWM 3, the critical features of functional winter range that will help to sustain deer during winter periods are:**

- well-developed tree crowns that intercept snow (allowing foraging and movement);
- warm aspects (SE, S, SW, W);
- moderate to steep slopes (40-100%);
- elevations below 1500m (in interior ecosystems on shallow snow pack zones, and 1000m in coastal ecosystems and the moderate to deep snow pack zones);
- small openings (<0.5 ha) in a variable canopy permitting growth of key forage species;
- multiple canopy layers with an understory of Douglas-fir or cedar-hemlock thickets providing additional thermal cover, security cover and forage;
- small rock outcrops that provide intense solar radiation and foraging areas and thermal sites;
- minimal shading from adjacent hillsides;
- older forests (>100 years) with arboreal lichen (*Alectoria*, *Bryoria* and *Usnea* spp.) which are key winter food sources, especially when snow depths restrict access to the availability of other rooted forage species;
- proportions of crown closure habitat within functional deer winter range (Figure 1) within the Moderate Snowpack Zone:

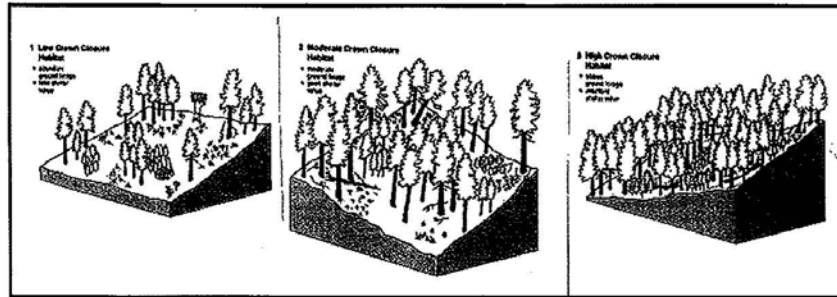
**Crown closure habitat types within functional deer winter range in low, moderate, and deep snowpack zones<sup>1</sup>:**

<i>Crown Closure Habitat</i>	<i>Crown Closure Percentage</i>	<i>Crown Closure Class Code</i>	<i>Recommended proportion (%) of Crown Closures within the Shallow Snowpack Zone* (100 cm mean annual snowfall)</i>	<i>Recommended proportion (%) of Crown Closures within the Moderate Snowpack Zone* (100-150 cm mean annual snowfall)</i>	<i>Recommended proportion (%) of Crown Closures within the Deep Snowpack Zone* (150-200 cm mean annual snowfall)</i>
Low	16-35%	2, 3	~40	~33	~33
Moderate	36-65%	4, 5, 6	~40	~33	0
High	>65%	>6	~20	~33	~66

\*This Order does not define elevations for snow zones, however: Shallow Snowpack Zone is generally defined as <400 m elevation. Moderate Snowpack Zone is generally defined as 400-800 m elevation. Deep Snowpack Zone is generally defined as >800 m elevation.

<sup>1</sup> See Armleder, H.M., M.J. Waterhouse, R.J. Dawson and K.E. Iverson. 1998. Mule Deer Response to Low-volume Partial Cutting on Winter Ranges in Central Interior British Columbia. Ministry of Forests, Research Program. B.C.

Figure 1: Proportions of crown closure habitat within functional deer winter range



**2. In meeting the requirement for GWMs 4 and 5, the following is suggested operational guidelines for planning harvesting, planting, stand tending and road building within a Rotation Winter Range:**

The following guidelines have been divided into recommendations when harvesting: 1) an area within a rotation winter range that meets GWM 4; and 2) a portion of the winter range for the purpose of creating, expediting or enhancing part of the winter range as per GWM 5.

<i>Harvesting</i>	
<i>Guidelines to consider when harvesting the unrestricted 20% of the rotation winter range as to GWM 4.</i>	<i>Guidelines to apply when creating winter range attributes in rotation winter range through mitigation or enhancement as per GWM 5.</i>
<ul style="list-style-type: none"> <li>• Consider small openings as opposed to one large one</li> <li>• Consider lower volume selective harvesting</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain the crown closure proportions recommended for the specific snowpack zone</li> <li>• Openings should be 0.5 to 1.0 tree heights wide (Nyberg and Janz 1990).</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain micro-habitats important to deer (ridges, rock outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover)</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain a significant component of old-growth trees; cover must be at least 100m wide to be effective at providing cover and gain thermal shelter</li> <li>• Maintain micro-habitats important to deer (ridges, rock outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover)</li> <li>• Control debris (slash) depths to maintain movement opportunities for deer</li> <li>• Minimize damage to residual trees and regeneration</li> </ul>

### 3. Other considerations:

- If **road building** must occur in or adjacent to a winter range, harassment or disturbance pressures on deer can be reduced by:
  - Designing road layout to minimize the amount of road required;
  - Avoiding road routes through the winter range or along an edge; and
  - Maintaining, where possible, cover (screening) along the road edge.
- **Reforestation (tree species selection) and stand density management** that produce an optimum mix of: 1) large crowns for cover; and 2) thermal shelter, should be considered when preparing a site plan or enhancement plan in a rotation winter range.
- Consulting a qualified professional in wildlife/forest management is recommended when preparing site plans or enhancement plans for a rotation winter range.

### B. Moose Winter Range:

#### 1. In meeting the requirements of GWM 8, 9 and 10, the following is offered as guidance for operating in Moose Winter Range Forage Management Zone:

##### Harvesting Operating Guidelines<sup>2</sup>:

- Harvesting may utilize a suite of harvesting/silviculture systems including clear cutting, variable retention, selective logging, and commercial thinning.
- Special attention is to be paid to including the retention of larger limbed tree species (specific to individual ecosystems) that provide better snow interception than other species.
- Early harvesting (i.e. before culmination age is achieved) is permitted as a technique to put a closed canopy stand back into the high forage value status associated with a recently logged (i.e. early seral) vegetative community.
- Commercial thinning can be used to reduce crown closure and stimulate the production of herbaceous forage species. Commercial thinning may be done uniformly across a stand or involve removal of small groups to target a mosaic of mature trees and forage areas on the floodplain in the future.
- Commercial thinning in combination with delayed or extended rotation final harvest may also be considered. Multiple entry commercial thinning may be considered as a part of this strategy.

##### Reforestation Operating Guidelines:

- Generally, reforestation strategies which optimize timber production and forage production are to be used within the THLB portion of the MWRFMZ.
- Reforestation prescriptions should include options such as cluster planting or lower density stocking so that crown closure is delayed and forage production is maintained further into the rotation.

---

<sup>2</sup> See International Forest Products Ltd (Interfor) 2002. TFL 38 Moose Winter Range Management Strategy. June 2002. Squamish, B.C.

- Tree species that provide for better snow interception characteristics should be considered for reforestation.
- Brush control prescriptions should focus only on control of brush that is directly competing with crop trees and should specifically avoid incidental or broadcast brushing of high value forage species such as red-osier dogwood, black cottonwood and willow.

**Stand Tending Operating Guidelines:**

- Juvenile spacing may be used to reduce crop tree density and thereby increase light to the forest floor and stimulate rooted forage production.
- Pruning prior to crown closure may be used to increase light penetration and maintain forage production longer into the rotation.
- In stands where stand establishment has been achieved, consider manual brushing to promote sprouting to increase the forage supply.

**C. References:**

Armleder, H.M., M.J. Waterhouse, R.J. Dawson, and K.E. Iverson. 1998. Mule Deer Response to Low-volume Partial Cutting on Winter Ranges in Central Interior British Columbia. Ministry of Forests, Research Program, BC.

Green, R.N. and K. Klinka. 1994. A Field Guide to Site Identification and Interpretation for the Vancouver Forest Region. Ministry of Forests, Research Branch, BC.

International Forest Products Ltd (Interfor). 2002. TFL 38 Moose Winter Range Management Strategy. Squamish, BC.

Nyberg, J.B. and D.W. Janz, technical eds. 1990. Deer and Elk Habitats in Coastal Forests of Southern British Columbia. Ministry of Forests, Special Report Series 5, Research Branch, Victoria, BC.

Resources Inventory Committee. 1997. Standardized inventory methodologies for components of British Columbia's biodiversity: Ground based census techniques for selected cervids – Moose, Elk, Mule/Black-tailed Deer, White-tailed Deer and Fallow Deer. Ministry of Environment, Lands and Parks, Wildlife Branch, Victoria, BC.

St-Louis, A., J.P. Ouellet, M. Crête, J. Maltais, and J. Huot. 2000. Effects of partial cutting in winter on white-tailed deer. *Can J. For. Res.* 30: 655-661 (2000). © 2000 NRC Canada.



**ORDER - GRIZZLY BEAR WHA #2-272 to 2-297, 2-381 to 2-386,  
2-388, 2-390 to 2-406, 2-436 to 2-443**



**ORDER – Wildlife Habitat Areas**  
**2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443**  
**Grizzly Bear – Squamish 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 A (2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (*fwha\_bc*) are established as wildlife habitat areas 2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 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 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
  - 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 Coastal Tailed Frog in the Squamish Forest District.
  
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 2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443.

**NOTE:** With approval of this order, *Forest Act* agreement holders are exempt from their obligations to prepare a result or strategy for both Grizzly Bear and Coastal Tailed Frog in the Squamish Forest District. The exemption for Grizzly Bear is provided in an notice amendment available at: <http://www.env.gov.bc.ca/wld/frpa/notices/sar.html> (August 22, 2011)

### *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 and 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 the commencement of activities, GWM 1 does not apply if:
  - a) future road reconstruction is required through WHA 2-438, 2-439 or 2-440 to access timber beyond the WHA; or
  - b) future road reconstruction or relocation of the Lillooet South FSR is required through WHA 2-399 or 2-400, as a result of flooding, debris torrent or similar natural event, associated with the Lillooet River.
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;
  - b) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit;
  - c) timber harvesting occurs in Block 18-6 within WHA 2-382, with an area not to exceed that shown on the field map dated May 1, 2009; or
  - d) timber harvesting and temporary road construction occurs in Block 156 in WHA 2-397, with an area of overlap not to exceed that shown on the map dated August 9, 2010.

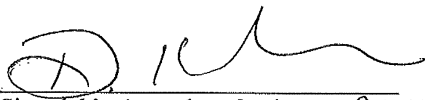
4. Where timber harvesting or road construction are planned immediately adjacent to any WHA with >30 ha productive forest area, GWM 1 or GWM 3 do not apply to the area of an incursion along the WHA boundary if:
- a) the incursion is required to provide for a logical harvesting boundary or a logical road 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 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. Wherever practicable, do not develop recreational structures, trails, or facilities.

  
Signed this 25 day of August 2010  
Doug Konkin, Deputy Minister  
Ministry of Environment

## Appendix 1:

The following information is provided by the Ministry of Environment as background information and support to the order establishing WHAs 2-272 to 2-297; 2-381 to 2-386; 2-388 to 2-406; 2-436 to 2-443. 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 (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 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 Regional Manager, 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. For GWM 2 the intent of clause (b) is to allow reconstruction or relocation of the Lillooet South FSR (through 2-399 or 2-400) if future flooding or debris torrent (or similar event) on the Lillooet River result in the river channel migrating towards the Lillooet South FSR making such a relocation necessary. The Regional Manager should be provided with reconstruction/relocation engineering plans prior to the commencement of work.
6. For GWM 3 (d) the temporary road to access Block 156 should be deactivated to a non-driveable state as soon as possible after completion of harvesting and planting. This will minimize disturbance to grizzly bears while foraging in this WHA.
7. 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 2-273, 2-276, 2-277, 2-281, 2-282, 2-284, 2-285, 2-286, 2-287, 2-289, 2-290, 2-292, 2-293, 2-294, 2-296, 2-390, 2-392, 2-395, 2-406, 2-437), 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 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.

8. 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.
9. 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*.
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).

## MARBLED MURRELET WHA #2-303 to 2-306, 2-308, 2-309 & 2-316



### ORDER – WILDLIFE HABITAT AREAS 2-303 to 2-306, 2-308, 2-309 & 2-316

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 Marbled Murrelet (*Brachyramphus marmoratus*); 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 (2-303 to 2-306, 2-308, 2-309, 2-316) 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 WHAs for Marbled Murrelet. 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 Marbled Murrelet; 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 2-303 to 2-306, 2-308, 2-309, 2-316.
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 Marbled Murrelet in the Sea to Sky Natural Resource 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.

**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 of Resource Management, Ministry of Forests, Lands & Natural Resource Operations (FLNR), South Coast Region

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

**Schedule 1 – General Wildlife Measures**

*Access, timber harvesting and silviculture*

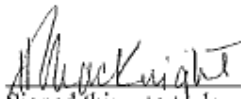
1. No primary forest activities are permitted.
2. GWM 1 does not apply if:
  - a. it is necessary to create guyline tiebacks for timber harvesting outside of a WHA boundary;
  - b. trees felled in accordance with GWM 2 a) are retained on-site to function as coarse woody debris, unless the felled tree 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.
3. 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.
4. Where primary forest activities 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.

*Recreation*

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



Signed this 15<sup>th</sup> 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 Environment and FLNR as background information and support to the Order establishing WHAs 2-303 to 2-306, 2-308, 2-309 & 2-316. 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 marbled murrelet 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. 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. These activities should be 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 FLNR 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 marbled murrelet 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 FLNR 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.

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 government official upon request.

6. Where roads in the WHA are temporary and no longer required, they should be permanently deactivated. Proponents should notify the Director when deactivation of temporary roads is complete.
7. 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. Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements.

# NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF MARBLED MURRELET

## 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.



Signed this

24 day of November, 2021

Sharon Hadway,  
Regional Executive Director  
West Coast Region



Signed this

22 day of November, 2021

Allan Johnsrude,  
Regional Executive Director  
South Coast Region



Signed this

22 day of November 2021

Josh Pressey,  
Regional Executive Director  
Cariboo Region

Ministry of Forests, Lands, Natural Resource Operations and Rural Development

**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>

TABLE 1

Forest District	Natural Resource District	MAMU WHA and OGMA Suitable Habitat Minimum (Ha)	MAMU WHA Suitable Habitat Minimum (Ha)
Cariboo	Cariboo-Chilcotin	423	299
Chilliwack	Chilliwack	3,383	1,381
Campbell River	Campbell River	17,391	10,561
North Island Central Coast	North Island Central Coast	8,811	5,191
Sunshine Coast	Sunshine Coast	19,715	10,112
South Island	South Island	9,709	5,936
Squamish	Sea to Sky	3,128	2,059
<b>Total</b>		<b>62,560</b>	<b>35,539</b>

*abbreviations key: MAMU=Marbled Murrelet, WHA=Wildlife Habitat Area, OGMA=Old Growth Management Area, Ha=hectares*

TABLE 2

Landscape Unit Aggregate	MAMU WHA and OGMA Suitable Habitat Minimum (Ha)	MAMU WHA Suitable Habitat Minimum (Ha)
<b>Cariboo-Chilcotin Natural Resource District</b>		
Cariboo	423	299
<b>Chilliwack Natural Resource District</b>		
GVWD	44	33
Lower Fraser	3,339	1,348
<b>Campbell River Natural Resource District</b>		
Johnson Strait	4,585	1,637
Kyuquot Sound	3,385	2,595
Nootka	9,421	6,329
<b>North Island Central Coast Natural Resource District</b>		
Cape Scott	3,009	1,400
McNeill	1,533	864
Nimpkish	2,379	1,251
Quatsino	1,890	1,676

TABLE 2 *continued*

Landscape Unit Aggregate	MAMU WHA and OGMA Suitable Habitat Minimum (Ha)	MAMU WHA Suitable Habitat Minimum (Ha)
<i>Sunshine Coast Natural Resource District</i>		
<i>Bute</i>	5,215	3,363
<i>Georgia</i>	2,221	695
<i>Homathko</i>	3,408	1,911
<i>Jervis</i>	3,944	2,150
<i>Powell</i>	2,288	843
<i>Sechelt</i>	2,639	1,150
<i>South Island Natural Resource District</i>		
<i>Barkley Sound</i>	4,533	3,366
<i>Central</i>	1,296	1,041
<i>Renfrew</i>	3,880	1,529
<i>Sea to Sky Natural Resource District</i>		
<i>Seatosky1</i>	1,535	1,004
<i>Seatosky2</i>	1,593	1,055
<i>Total</i>	62,560	35,539

abbreviation key: MAMU=Marbled Murrelet, WHA=Wildlife Habitat Area, OGMA=Old Growth Management Area, Ha=hectares

TABLE 3

Landscape Unit Portion	Landscape Unit Aggregate	MAMU WHA and OGMA Suitable Habitat Target (Ha)	MAMU WHA and OGMA Suitable Habitat Minimum (Ha)	MAMU WHA Suitable Habitat Target (Ha)	MAMU WHA Suitable Habitat Minimum (Ha)
<i>Cariboo-Chilcotin Natural Resource District</i>					
Doran Creek	Cariboo	358	286	251	201
Tiedemann	Cariboo	65	52	48	38
<i>Chilliwack Natural Resource District</i>					
Coquitlam	GVWD	44	35	33	26
Alouette	Lower Fraser	87	70	10	8
Chehalis	Lower Fraser	7	5	0	0
Fraser Valley South	Lower Fraser	71	56	21	17
Hatzic	Lower Fraser	914	731	73	59
Pitt	Lower Fraser	1,053	842	634	508
Stave	Lower Fraser	983	787	461	369
Tretheway	Lower Fraser	37	30	25	20
Widgeon	Lower Fraser	187	149	124	99



TABLE 3 *continued*

Landscape Unit Portion	Landscape Unit Aggregate	MAMU WHA and OGMA Suitable Habitat Target (Ha)	MAMU WHA and OGMA Suitable Habitat Minimum (Ha)	MAMU WHA Suitable Habitat Target (Ha)	MAMU WHA Suitable Habitat Minimum (Ha)
<b>South Island Natural Resource District</b>					
Barkley Sound Islands	Barkley Sound	183	146	101	81
Effingham	Barkley Sound	779	623	584	467
Escalante	Barkley Sound	249	199	184	147
Henderson	Barkley Sound	231	184	172	138
Klanawa	Barkley Sound	1,578	1,262	1,258	1,006
Maggie	Barkley Sound	103	82	56	45
Sarita	Barkley Sound	853	683	603	483
Toquaht	Barkley Sound	557	446	408	326
Corrigan WNVl	Central	171	137	171	137
Cous WNVl	Central	115	92	94	75
Nahmint WNVl	Central	853	682	712	570
Sproat Lake WNVl	Central	157	126	64	51
Caycuse WNVl	Renfrew	876	701	119	95
Cowichan WNVl	Renfrew	1	1	0	0
Gordon WNVl	Renfrew	467	374	231	185
Loss WNVl	Renfrew	451	361	371	297
Nitinat WNVl	Renfrew	879	703	286	229
San Juan WNVl	Renfrew	588	470	217	174
Tugwell WNVl	Renfrew	31	25	17	14
Walbran	Renfrew	587	470	288	230
<b>Sea to Sky Natural Resource District</b>					
East Howe	Seatosky1	167	133	23	19
Indian	Seatosky1	143	114	31	25
Lower Squamish	Seatosky1	285	228	225	180
Mamquam	Seatosky1	940	752	725	580
Meager	Seatosky2	322	258	179	143
Ryan	Seatosky2	8	7	0	0
Sloquet - High	Seatosky2	3	2	0	0
Sloquet - South	Seatosky2	213	171	120	96
Soo	Seatosky2	254	203	170	136
Upper Squamish	Seatosky2	567	454	506	405
Whistler	Seatosky2	226	181	80	64
<b>Totals</b>		<b>62,560</b>		<b>35,539</b>	

abbreviation key: MAMU=Marbled Murrelet, WHA=Wildlife Habitat Area, OGMA=Old Growth Management Area, Ha=hectares

# ORDER FOR THE RECOVERY OF MARBLED MURRELET

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 spatial 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.

2

November 2021

Marbled Murrelet 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: [www.for.gov.bc.ca - /ftp/RCO/external/!publish/MAMU/](http://www.for.gov.bc.ca/-/ftp/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

November 19, 2021  
\_\_\_\_\_  
Date

**Schedule 7****Marbled Murrelet Order****Objectives for Marbled Murrelet Nesting Habitat (Suitable Habitat)****TABLE 1**

<b>Landscape Unit Aggregate</b>	<b>Column "A" Suitable Habitat Target (Hectares Suitable Habitat)</b>
Barkley Sound	6,762
Bute	9,353
Cape Scott	5,971
Cariboo	3,565
Central	2,238
Comox Valley	12,355
East Coast	6,916
Georgia	4,385
GVWD	2,427
Homathko	9,155
Jervis	8,128
Johnson Strait	12,591
Kyuquot Sound	14,360
Lower Fraser	22,038
McNeill	2,319
Nimpkish	6,929
Nootka	22,292
Powell	3,415
Quatsino	4,830
Renfrew	11,032
Seatosky1	2,943
Seatosky2	6,112
Sechelt	4,183
<b>Total</b>	<b>184,299</b>

**Schedule 7**

**Marbled Murrelet Order**

**Table 2**

Landscape Unit Portion	Landscape Unit Aggregate	Column "A" Suitable Habitat Target (Hectares Suitable Habitat)	Column "B" Minimum Habitat Threshold (Hectares Suitable Habitat)
Klaskish	Quatsino	1,809	1,447
Mahatta	Quatsino	1,774	1,419
Caycuse WNVl	Renfrew	1,203	962
Cowichan WNVl	Renfrew	1	1
Gordon WNVl	Renfrew	726	581
Loss WNVl	Renfrew	728	582
Nitinat WNVl	Renfrew	1,545	1,236
San Juan WNVl	Renfrew	762	610
Tugwell WNVl	Renfrew	59	47
Walbran	Renfrew	6,008	4,806
East Howe	Seatosky1	314	251
Indian	Seatosky1	356	285
Lower Squamish	Seatosky1	689	551
Mamquam	Seatosky1	1,584	1,267
Elaho	Seatosky2	1,643	1,314
Meager	Seatosky2	583	466
Ryan	Seatosky2	18	14
Sloquet - High	Seatosky2	3	2
Sloquet - South	Seatosky2	635	508
Soo	Seatosky2	791	633
Tuwasus	Seatosky2	1,193	954
Upper Squamish	Seatosky2	865	692
Whistler	Seatosky2	381	305
Chapman	Sechelt	566	453
Howe	Sechelt	641	513
Salmon Inlet	Sechelt	997	798
Sechelt	Sechelt	1,979	1,583
<b>Total</b>		<b>184,299</b>	

**MINISTERIAL ORDER M424 – SCENIC AREA AND VISUAL  
QUALITY OBJECTIVES FOR THE SHANNON CREEK  
WATERSHED**



Ministerial Order Number:     M 424    

File: 16250-20/SHAN, 10285-20/Soo TSA

October 25, 2016

**ESTABLISHMENT OF SCENIC AREA AND VISUAL QUALITY OBJECTIVES FOR THE SHANNON CREEK WATERSHED WITHIN THE SEA TO SKY NATURAL RESOURCE DISTRICT**

I, Dave Southam, District Manager for the Sea to Sky Natural Resource District, having been delegated the authority under Section 150.3 of the *Forest and Range Practices Act (FRPA)* by the Minister responsible for *FRPA* to establish, repeal or amend Scenic Area polygons as part of an update, refinement, or revision of an existing visual landscape inventory, exercise this authority and order that pursuant to Section 7(1) of the *Government Actions Regulation (GAR)*, that the Scenic Areas identified on the attached map titled *Scenic Area and Visual Quality Objectives for the Shannon Creek watershed, Sea to Sky Natural Resource District* and dated May 19, 2016 are established for the Shannon Creek watershed portion within the Sea to Sky Natural Resource District. This order repeals and replaces the Scenic Area in the Shannon Creek watershed that was previously established under the *Forest Practices Code of British Columbia Act (FPC)* and continued under *FRPA*.

Pursuant to Section 7(2) of *GAR*, I, Dave Southam, District Manager for the Sea to Sky Natural Resource District, establish Visual Quality Objectives (VQOs) for the Scenic Area, in the Shannon Creek watershed portion of the Sea to Sky Natural Resource District that have undergone an amendment, shown on the attached map titled *Scenic Area and Visual Quality Objectives for the Shannon Creek watershed, Sea to Sky Natural Resource District* and dated May 19, 2016. This order repeals and replaces the Visual Quality Objectives in the Shannon Creek watershed that were previously established under the *FPC* and continued under *FRPA*.

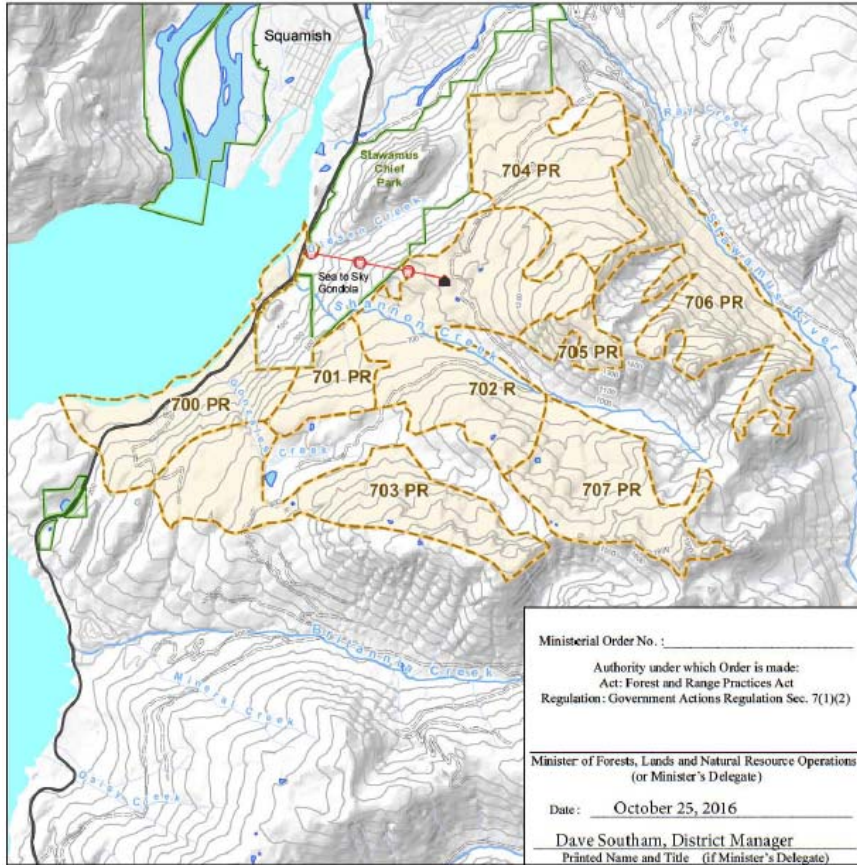
  
DN: cn=Dave Southam, o=Ministry of Forests, Lands and Natural Resource Operations, ou=Sea to Sky Natural Resource District, email=Dave.Southam@gov.bc.ca, c=CA  
Date: 2016.10.25 14:00:37 -0700

Dave Southam, RPF  
District Manager  
Sea to Sky Natural Resource District

---

Ministry of Forests, Lands and Natural Resource Operations	Sea to Sky Natural Resource District	Mailing address: 101-42000 Loggers Lane Squamish BC V8B 0L3 Tel: (604) 898-2100 Fax: (604) 898-2191 Toll Free: (800) 663-7867
--	--------------------------------------	--





Ministerial Order No. : \_\_\_\_\_

Authority under which Order is made:  
Act: Forest and Range Practices Act  
Regulation: Government Actions Regulation Sec. 7(1)(2)

Minister of Forests, Lands and Natural Resource Operations  
(or Minister's Delegate)

Date: October 25, 2016

Dave Southam, District Manager  
Printed Name and Title (if Minister's Delegate)

**Scenic Area and Visual Quality Objectives for the Shannon Creek Area, Sea to Sky Natural Resource District**

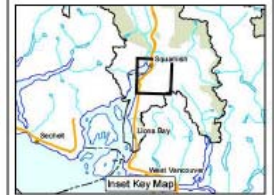
Ministerial Order: \_\_\_\_\_

**GAR Resource Features**

Scenic Area  
Label: Polygon# VQO

Label	Visual Quality Objective (VQO)
P	Preservation
R	Retention
PR	Partial Retention
M	Modification
MM	Maximum Modification

- Base Map Features**
- Gravel Road
  - River or Stream
  - Lake / Large River
  - Contour - 100m Index



Date: May 19, 2016  
Scale: 1:60,000  
BCGS Mapsheet : 92G.065

Sea to Sky Natural Resource District

Ministry of Forests, Lands and Natural Resource Operations

# Appendix E1 - Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan

Ministry of Forests, Lands and Natural Resource Operations

## Ministerial Order

### Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan

#### Part 1 - Interpretation

##### 1. Relationship with *Forest and Range Practices Act*

- (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*, and apply to the area shown on Map 1.
- (2) This ministerial order establishes land use objectives in accordance with section 93.4 of the *Land Act*, and nothing in, under or arising out of this ministerial order abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nation and does not relieve the Province of any obligation to consult with First Nations.

##### 2. Definitions

- (1) In this order:

“**cultural heritage resources**” means:

- a) trees, wild plant foods, botanical medicines and other forest resources, including wildlife, that are utilized by a First Nation for food, social, treaty or ceremonial purposes; and
- b) culturally modified trees and other historical and archaeological artefacts, sites and locations that are important to the cultural practices, knowledge, spirituality and heritage of a First Nation;

“**cultural management areas**” means areas identified by First Nations as having historic and contemporary cultural significance to them and for which management direction is provided in the Sea-to-Sky LRMP and government-to-government agreements. The locations of the cultural

management areas referred to in this order are shown on Map 2 and are comprised of:

- the In-SHUCK-ch Nation cultural management area;
- the Lil'wat Nation cultural management areas; and
- the Squamish Nation special cultural management areas;

**“cultural places”** means places identified by First Nations as having cultural heritage resource values of importance to them and for which management direction is provided in the Sea-to-Sky LRMP and government-to-government agreements. The locations of the cultural places referred to in this order are shown on Map 3 and are comprised of:

- the In-SHUCK-ch Nation cultural sites;
- the Lil'wat Nation A7x7ŭlŕŕecw (spirited ground) areas and the Skelulátkwa / Owl Creek cultural education area;
- the Squamish Nation Sŕiyamŕn ta Skwŕwŭ7mesh (cultural sites) and Ŭŕwumixw (village sites); and
- the Lil'wat Nation “Old Growth and Sensitive Areas”;

**“floodplain management areas”** means the Crown Land portions of the floodplains of the Upper Lillooet, Green, Soo, Elaho and Squamish Rivers shown on Map 4;

**“forested area”** means those treed stands identified in the Vegetation Resource Inventory (VRI) with ages greater than age class 2 and with the primary species component as a coniferous tree species, or with the primary species component as a deciduous tree species and the secondary component as a coniferous tree species.

**“herbicide”** means a substance used to destroy or inhibit the growth of plants;

**“mature forest”** means stands 80 years or older in the Coastal Western Hemlock (CWH) biogeoclimatic zone and 100 years or older in the Interior Douglas Fir (IDF) biogeoclimatic zone;

**“old growth forest”** means a stand of trees 250 years or older in the Coastal Western Hemlock and Interior Douglas Fir biogeoclimatic zones;

**“pesticide”** means a substance used to repel, kill, or control any species considered to be a pest, including weeds, insects, rodents, fungi, bacteria, or other organisms and includes herbicides, insecticides, rodenticides, fungicides, and bactericides;

“riparian areas” means areas of land that have conservation values because of their proximity to water and their ability to support plant and animal species that are distinctly different from the adjacent upland areas.

- (2) 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 *Heritage Conservation Act*, the *Range Act* and the regulations made there under, unless the context indicates otherwise.
- (3) Where an objective refers to an area shown both on a map and in a spatial dataset linked to the map, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets that apply to this order are available for download by going to the Legal Planning Objectives theme on the GeoBC Data Discovery Service at:  
<https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO191155>
- (4) The descriptive headings used in this order are for convenience only and do not limit or enlarge the meaning of any of the objectives.

## Part 2 - First Nations' Cultural Places and Cultural Management Areas

### 3. Objectives for First Nations' cultural places

- (1) Protect the cultural heritage resources within the cultural places listed in Schedule 1 and shown on Map 3, to support First Nations' food, social, ceremonial and spiritual use of the forest.
- (2) Maintain 100% of the forested area in the following cultural places:
  - a. Zone 2 of the In-SHUCK-ch mountain special management area shown on Map 5;
  - b. Category A Lil'wat Nation A7x7ŭlrñecw (spirited ground) areas shown on Map 6;
  - c. Portions of Category B Lil'wat Nation A7x7ŭlrñecw (spirited ground) areas within floodplain management areas as shown on Map 7;
  - d. Squamish Nation Sīyamín ta Sḵwḵwú7mesh (cultural sites) shown on Map 8;
  - e. Core areas within Squamish Nation Úxwumixw (village sites) shown on Map 8; and
  - f. Lil'wat Nation Q'em'sám (Old Growth and Sensitive Area) shown on Map 12.

- (3) Despite subsection 3 (2), timber harvesting may occur in the cultural places described in subsection 3 (2) to:
  - a. maintain forest health within the cultural places and adjacent forests;
  - b. address road maintenance activities within the cultural places; and to
  - c. eliminate a safety hazard.

#### **4. Objectives for First Nations' cultural management areas**

- (1) Conserve cultural heritage resources within the Lower Lillooet, Upper Soo, Qwalímak / Birkenhead River, Cheakamus, Callaghan, Kákila, Upper Elaho, Nexw Áyantsut / Sims Creek and the Estétiwilh / Westside Squamish River cultural management areas shown on Map 2.
- (2) Maintain opportunities for First Nations to practice traditional harvesting for food, social, ceremonial and spiritual purposes in the cultural management areas.
- (3) Maintain 100% of the old growth forest in the Upper Elaho cultural management area shown on Map 2.
- (4) Protect riparian area and cultural heritage resource values in the Qwalímak / Birkenhead River corridor area shown on Map 9 by:
  - a. limiting forest harvesting to stands that were less than 40 years of age as of March 2008; and by
  - b. using alternatives to pesticide and herbicide applications in this area, where practicable.
- (5) Despite subsection 4 (4) a., timber harvesting may occur in the Qwalímak / Birkenhead River corridor described in section 4 (4) to:
  - a. maintain forest health within the corridor and adjacent forests;
  - b. address road maintenance activities within the corridor; and to
  - c. eliminate a safety hazard.

### **Part 3 - Floodplains and Riparian Areas**

#### **5. Objectives for floodplain management areas**

- (1) Maintain the functional integrity of the floodplain ecosystems within each of the five floodplain management areas shown on Map 4 by:
  - a. limiting the total area available for timber harvesting to a maximum of 20% of each floodplain management area over a rotation; and

- b. retaining a fully representative suite of forest types, plant communities and wildlife habitats within each floodplain management area, where practicable.
- (2) Maintain 100% of the forested area in the portion of the Squamish River floodplain management area that is situated on the west side of the Squamish River as shown on Map 10.
  - (3) Despite subsection 5 (2), timber harvesting may occur in the portion of the Squamish River floodplain management area situated on the west side of the Squamish River as described in section 5 (2) to:
    - a. maintain forest health in the area and adjacent forests;
    - b. address road maintenance activities within the area; and to
    - c. eliminate a safety hazard.

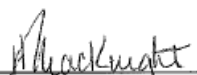
**6. Objectives for riparian areas**

- (1) Maintain at least 70% of the forested area, as a combination of mature forest and old growth forest, within the Upper Lillooet River riparian area shown on Map 11.
- (2) Maintain at least 70% of the forested area, as a combination of mature forest and old growth forest, within a minimum 100 meter riparian buffer area around Lillooet Lake.
- (3) Protect riparian area values within the 100 meter riparian buffer area around Lillooet Lake by using alternatives to pesticide and herbicide applications in this area, where practicable.

**Part 4 - Transition**

**7. 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.
- (2) The applicable period under section 8(2)(b) of the *Forest and Range Practices Act* is 12 months starting on the date this order comes into effect as specified in subsection 7(1).

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

August 13, 2013  
Date

Ministerial Order  
Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan

**Schedule 1. List of First Nation Cultural Places Applicable to the Order**

<u>No.</u>	<u>First Nation</u>	<u>Cultural Place Name</u>
1	In-SHUCK-ch Nation	Cúmivqs / Franks Creek cultural site
2	In-SHUCK-ch Nation	In-SHUCK-ch Mountain special management area
3	Lil'wat Nation	Skelulátkwa / Owl Creek cultural education area
4	Lil'wat Nation	27 Mile A7x7úlrñecw (spirited ground) area -Cat. "A"
5	Lil'wat Nation	29 Mile A7x7úlrñecw (spirited ground) area -Cat. "A"
6	Lil'wat Nation	6 Mile Creek A7x7úlrñecw (spirited ground) area -Cat. "A"
7	Lil'wat Nation	Cheakamus Canyon A7x7úlrñecw (spirited ground) area -Cat. "A"
8	Lil'wat Nation	Grandfather Mountain A7x7úlrñecw (spirited ground) area -Cat. "A"
9	Lil'wat Nation	Hindu Flats A7x7úlrñecw (spirited ground) area -Cat. "A"
10	Lil'wat Nation	IR4 A7x7úlrñecw (spirited ground) area -Cat. "A"
11	Lil'wat Nation	Lizzie Lake A7x7úlrñecw (spirited ground) area -Cat. "A"
12	Lil'wat Nation	Lokla A7x7úlrñecw (spirited ground) area -Cat. "A"
13	Lil'wat Nation	Lower Birkenhead A7x7úlrñecw (spirited ground) area -Cat. "A"
14	Lil'wat Nation	Lower Soo A7x7úlrñecw (spirited ground) area -Cat. "A"
15	Lil'wat Nation	MacKenzie Basin A7x7úlrñecw (spirited ground) area -Cat. "A"
16	Lil'wat Nation	Mosquito Lake A7x7úlrñecw (spirited ground) area -Cat. "A"
17	Lil'wat Nation	North Creek A7x7úlrñecw (spirited ground) area -Cat. "A"
18	Lil'wat Nation	North Millar A7x7úlrñecw (spirited ground) area -Cat. "A"
19	Lil'wat Nation	Owl Creek Pool A7x7úlrñecw (spirited ground) area -Cat. "A"
20	Lil'wat Nation	Oxbow Lake A7x7úlrñecw (spirited ground) area -Cat. "A"
21	Lil'wat Nation	Shadow Lake A7x7úlrñecw (spirited ground) area -Cat. "A"
22	Lil'wat Nation	Smoke-a-butt trail A7x7úlrñecw (spirited ground) area -Cat. "A"
23	Lil'wat Nation	Soo Waterfall A7x7úlrñecw (spirited ground) area -Cat. "A"
24	Lil'wat Nation	Spetch Creek A7x7úlrñecw (spirited ground) area -Cat. "A"
25	Lil'wat Nation	Upper Birkenhead A7x7úlrñecw (spirited ground) area -Cat. "A"
26	Lil'wat Nation	Wolverine Lake A7x7úlrñecw (spirited ground) area -Cat. "A"
27	Lil'wat Nation	Birkenhead Bailey Bridge A7x7úlrñecw (spirited ground) area -Cat. "B"
28	Lil'wat Nation	Driftwood A7x7úlrñecw (spirited ground) area -Cat. "B"
29	Lil'wat Nation	Gates Falls A7x7úlrñecw (spirited ground) area -Cat. "B"
30	Lil'wat Nation	Gravelle Creek A7x7úlrñecw (spirited ground) area -Cat. "B"
31	Lil'wat Nation	Green Lake A7x7úlrñecw (spirited ground) area -Cat. "B"
32	Lil'wat Nation	Green-Lillooet River A7x7úlrñecw (spirited ground) area -Cat. "B"
33	Lil'wat Nation	HI7hi A7x7úlrñecw (spirited ground) area -Cat. "B"
34	Lil'wat Nation	Ivey Lake West A7x7úlrñecw (spirited ground) area -Cat. "B"
35	Lil'wat Nation	Lillooet Lake-Fish Camp A7x7úlrñecw (spirited ground) area -Cat. "B"
36	Lil'wat Nation	Lillooet Lake North A7x7úlrñecw (spirited ground) area -Cat. "B"
37	Lil'wat Nation	Lillooet Lake South A7x7úlrñecw (spirited ground) area (1 & 2) -Cat. "B"
38	Lil'wat Nation	Lower Twin One A7x7úlrñecw (spirited ground) area -Cat. "B"
39	Lil'wat Nation	Meager A7x7úlrñecw (spirited ground) area -Cat. "B"
40	Lil'wat Nation	Owl Creek A7x7úlrñecw (spirited ground) area -Cat. "B"
41	Lil'wat Nation	Pemberton Airport A7x7úlrñecw (spirited ground) area -Cat. "B"
42	Lil'wat Nation	Salal Creek-Keyhole Falls A7x7úlrñecw (spirited ground) area -Cat. "B"
43	Lil'wat Nation	Sampson Creek A7x7úlrñecw (spirited ground) area -Cat. "B"

Ministerial Order

Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan

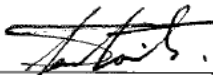
44	Lil'wat Nation	Signal Hill A7x7úlmechw (spirited ground) area -Cat. "B"
45	Lil'wat Nation	Tenas Lake A7x7úlmechw (spirited ground) area -Cat. "B"
46	Lil'wat Nation	Ts'zil A7x7úlmechw (spirited ground) area -Cat. "B"
47	Lil'wat Nation	Walkers Bridge A7x7úlmechw (spirited ground) area -Cat. "B"
48	Squamish Nation	Browning Lake Sliyamín ta Skwxwú7mesh (cultural) site
49	Squamish Nation	ChekChekts Úxwumixw (village) site
50	Squamish Nation	Cloudburst Mountain Sliyamín ta Skwxwú7mesh (cultural) site
51	Squamish Nation	Fries Creek Sliyamín ta Skwxwú7mesh (cultural) site
52	Squamish Nation	Green Lake North Sliyamín ta Skwxwú7mesh (cultural) site
53	Squamish Nation	Indian River Sliyamín ta Skwxwú7mesh (cultural) site
54	Squamish Nation	Lower High Falls Creek Sliyamín ta Skwxwú7mesh (cultural) site
55	Squamish Nation	Lower Soo River Sliyamín ta Skwxwú7mesh (cultural) site
56	Squamish Nation	Mid Cheakamus River Sliyamín ta Skwxwú7mesh (cultural) site
57	Squamish Nation	Monmouth Creek Sliyamín ta Skwxwú7mesh (cultural) site
58	Squamish Nation	Puyam Úxwumixw (village) site
59	Squamish Nation	Raffuse Creek Sliyamín ta Skwxwú7mesh (cultural) site
60	Squamish Nation	Sims Elaho Confluence Sliyamín ta Skwxwú7mesh (cultural) site
61	Squamish Nation	Squamish River West Sliyamín ta Skwxwú7mesh (cultural) site
62	Squamish Nation	Stawamus Creek Sliyamín ta Skwxwú7mesh (cultural) site
63	Squamish Nation	Tatlow Creek Sliyamín ta Skwxwú7mesh (cultural) site
64	Squamish Nation	Upper Cheakamus River Sliyamín ta Skwxwú7mesh (cultural) site
65	Squamish Nation	Upper High Falls Creek Sliyamín ta Skwxwú7mesh (cultural) site
66	Squamish Nation	Upper Mamquam Sliyamín ta Skwxwú7mesh (cultural) site
67	Squamish Nation	Yelhixw Úxwumixw (village) site



# Appendix E2 - Sea to Sky Wildland Area Order

PROVINCE OF BRITISH COLUMBIA  
ORDER OF LIEUTENANT GOVERNOR IN COUNCIL

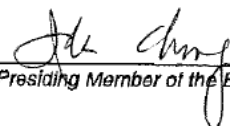
Order in Council No. 109, Approved and Ordered MAR 24 2011

  
Lieutenant Governor

Executive Council Chambers, Victoria

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and consent of the Executive Council, orders that the attached Sea to Sky Wildland Order is made.

  
Minister of Forests, Lands and Natural  
Resource Operations

  
Presiding Member of the Executive Council

*(This part is for administrative purposes only and is not part of the Order.)*

Authority under which Order is made:

Act and section: Environment and Land Use Act, R.S.B.C. 1996, c. 117, s. 7

Other: \_\_\_\_\_

March 15, 2011

page 1 of 13

Resub 2/O/945/2010/48

## SEA-TO-SKY WILDLAND AREA ORDER

### Definitions

1 In this order:

“**commercial logging**” means harvesting timber for the primary purpose of disposing of the timber for compensation;

“**compensation**” means a rate, remuneration, gain or reward of any kind paid, payable, promised, demanded, received or expected, directly or indirectly;

“**Crown land**” means land, whether or not it is covered by water, that is owned by the government;

“**natural boundary**” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself;

“**power development**” means the works, as defined in section 4, developed or to be developed for a power purpose;

“**power purpose**” means the use of water or wind in the production of electricity or other power;

“**wildland area**” means Crown land that is established as a wildland area under section 2.

### Establishment of wildland areas

- 2 (1) Subject to this section, the area described in column 3 of an item set out in the Schedule to this order is established as a wildland area with the name set out in column 2 opposite that description.
- (2) A wildland area does not include the following:
- (a) a park, recreation area or conservancy;
  - (b) an ecological reserve named and described in Schedule A or Schedule B to the *Protected Areas of British Columbia Act*;
  - (c) an area that is established as a protected area by an order in council under the *Environment and Land Use Act*.
- (3) For the purposes of subsection (2), a “**park**”, “**recreation area**” and “**conservancy**” means a “park”, “recreation area” and “conservancy” as defined in section 1 of the *Park Act*.

### Wildland areas – commercial logging

- 3 (1) In this section, “**regional manager**”, “**district manager**” and “**timber sales manager**” means “regional manager”, “district manager” and “timber sales manager”, as defined in section 1 of the *Forest Act*.
- (2) The minister who is responsible for the administration of section 12 of the *Forest Act*, a regional manager, a district manager or a timber sales manager must not invite applications for, offer to enter into or enter into an agreement

referred to in section 12 of the *Forest Act* with respect to commercial logging in a wildland area.

- (3) For greater certainty, subsection (2) does not apply to a road permit for the construction, maintenance or use of a road in a wildland area.

#### **Wildland areas – hydroelectric and wind power**

- 4 (1) In this section:

“**comptroller**” means comptroller as defined in the *Water Act*;

“**minister**” means the minister responsible for the administration of the *Land Act*;

“**regional water manager**” means regional water manager as defined in the *Water Act*;

“**water licence**” means a licence as defined in the *Water Act*;

“**works**” means

- (a) anything capable of or used for
  - (i) diverting, storing, measuring, conserving, conveying, retarding, confining or using water,
  - (ii) producing, measuring, transmitting or using electricity,
  - (iii) collecting, conveying or disposing of sewage or garbage, or
  - (iv) preventing or extinguishing fires,
- (b) booms and piles placed in a stream,
- (c) obstructions placed in or removed from streams or the banks or beds of streams,
- (d) changes in and about a stream, and
- (e) access roads to any of the works referred to in paragraphs (a) to (d).

- (2) Subject to subsections (4), (5), (6) and (7), the minister must not, under section 11, 38, 39 or 40 of the *Land Act*, do any of the following for or in relation to works for a power purpose or proposed works for a power purpose that are or are to be located wholly or partially in a wildland area:

- (a) dispose of Crown land in the wildland area;
- (b) grant a right of way or easement over Crown land in the wildland area;
- (c) grant a licence to occupy Crown land in the wildland area;
- (d) grant an option to purchase Crown land in the wildland area.

- (3) Subject to subsections (4), (5), (6) and (7), the comptroller and a regional water manager must not grant all or part of an application for a water licence, issue to an applicant a conditional or final water licence under section 12 of the *Water Act* or issue a permit under section 26 of the *Water Act* for any of the following purposes:

- (a) the diversion, use or storage of water from a stream if the diversion, use or storage, as the case may be,
  - (i) is for a power purpose, and
  - (ii) is located wholly or partially in a wildland area;

- (b) the construction of works that are a part of a power development located wholly or partially in a wildland area, whether or not the works are in relation to a diversion, use or storage of water referred to in paragraph (a).
- (4) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, if the disposition is made or the document is granted or issued on condition that the electricity or other power generated from the power development to which the disposition or document relates is only used and disposed of in accordance with subsection (5).
- (5) For the purposes of subsection (4), the electricity or other power generated from a power development in a wildland area must
  - (a) be used exclusively for activities that are carried on wholly or partially in the wildland area,
  - (b) be used exclusively by the holder of the water licence as described in subsection (3) or the person that receives a disposition of Crown land as described in subsection (2) for that power development or the immediate family members, employees or tenants of the holder of the water licence or of the person that receives a disposition of Crown land, and
  - (c) not be disposed of for compensation, except to a person referred to in paragraph (b).
- (6) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, if the disposition is made or the document is granted or issued for the purpose of authorizing works within a wildland area, subject to the following conditions:
  - (a) the works are completely below the surface of the land in the wildland area;
  - (b) the works, or construction of the works, do not at any time disturb the surface of the land in the wildland area.
- (7) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, for the flooding of a portion of a wildland area for storage of water associated with a water intake on a stream for a power development provided
  - (a) the power development is or will be run-of-the-river,
  - (b) the storage is only associated with the water intake, and
  - (c) the works of the power development, including the water intake, are located wholly outside the wildland area.

## **SCHEDULE**

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		<p>within the boundaries as shown on the official plan for the Pebble Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: pebble_creek_wildland.pdf, dated October 27, 2010.</p> <p>The whole wildland area containing approximately 22 933 hectares.</p>
18	Phelix Headwaters	<p>All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Phelix Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: phelix_headwaters_wildland.pdf, dated October 27, 2010.</p> <p>The whole wildland area containing approximately 3 815 hectares.</p>
19	Powder Mountain	<p>All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Powder Mountain Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: powder_mtn_wildland.pdf, dated October 27, 2010.</p> <p>The whole wildland area containing approximately 7 069 hectares.</p>
20	Rutherford Headwaters	<p>All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Rutherford Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: rutherford_headwaters_wildland.pdf, dated October 27, 2010.</p> <p>The whole wildland area containing approximately 19 208 hectares.</p>
21	Sky Pilot	<p>All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Sky Pilot Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: sky_pilot_wildland.pdf, dated October 27, 2010.</p> <p>The whole wildland area containing approximately 2 155 hectares.</p>
22	South Creek	<p>All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the South Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: south_creek_wildland.pdf, dated October 27, 2010.</p>

## Appendix F – First Nations Consultation

The First Nations Consultation communications for the FSP are summarized in the tables below. The referrals letters and responses are appended below.

referral letters, response letters and comment address letters to be inserted when available.

### Squamish Nation

Date	Item

### Tsleil-Waututh Nation

Date	Item

### Musqueam Nation

Date	Item

### FSP Amendment Log

Amendment Number	Amendment Date	Date approved by the DDM (if required)	FDU (if applicable)	Amendment Details

## Appendix G - FSP Advertising

Insert copy of newspaper advertisements etc.

# Appendix H – Public Consultation Summary

Insert summary of public consultation activities when completed

## Public Consultation Referral Summary

Submission of FSP	Referral Contacts
Advertising – Public Notice of 60 day FSP review and comment periods	
Commercial Recreation Licensees	
Commercial Interests (Crown Land)	
First Nations	
Watershed Groups Trappers	
Ministry of Forest Lands and Natural Resource Operations	Joanne DeGagne RPF – District Approvals Officer
Regional Governments	Squamish Lillooet Regional District
Municipal Governments	District of Squamish

## FSP Amendment Log

Amendment Number	Amendment Date	Date approved by the DDM (if required)	FDU (if applicable)	Amendment Details