



BCTS
BC Timber Sales
Chinook

BCTS Chinook Business Area Forest Stewardship Plan Sea to Sky Natural Resource District

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1. Interpretation

1.1 Definitions:

“ECA” means Equivalent Clearcut Area, a measure of the site hazard for peak flows in a cutblock;

“FDU” means Forest Development Unit under this FSP;

“FLNRO” means Forests Lands and Natural Resource Operations;

“FPPR” means the Forest Planning and Practices Regulation BC Reg 14/2004;

“FRPA” means the Forest and Range Practices Act SBC 2002, c.69;

“FSP” means this forest stewardship plan;

“GAR” means the Government Actions Regulation;

“IWMP” means Integrated Watershed Management Plan;

“OSPR” means the Operational and Site Planning Regulation;

“Primary Forest Activity” means one or more of the following:

(a) Timber harvesting;

(b) Silviculture treatments;

(c) Road construction, maintenance and deactivation;

“RP” means Road Permit;

“RSTBC” means Recreation Sites and Trails BC

“Species at Risk Notice” means the notice under section 7 (2) of the FPPR entitled “Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the Squamish Forest District” dated December 2004;

“THLB” means Timber Harvesting Land Base

“TFL 38” Tree Farm Licence 38 (Northwest Squamish Forestry Limited)

“TSL” means Timber Sale Licence;

“TSM” means the Timber Sales Manager for the BC Timber Sales’ Chinook Business Area;

“WHA” means Wildlife Habitat Area.

1.2 Term of the Stewardship Plan:

The term this FSP is to be 5 years after the Delegated Decision Maker (DDM) signs the completed/ approved plan.

1.3 Forest Development Unit:

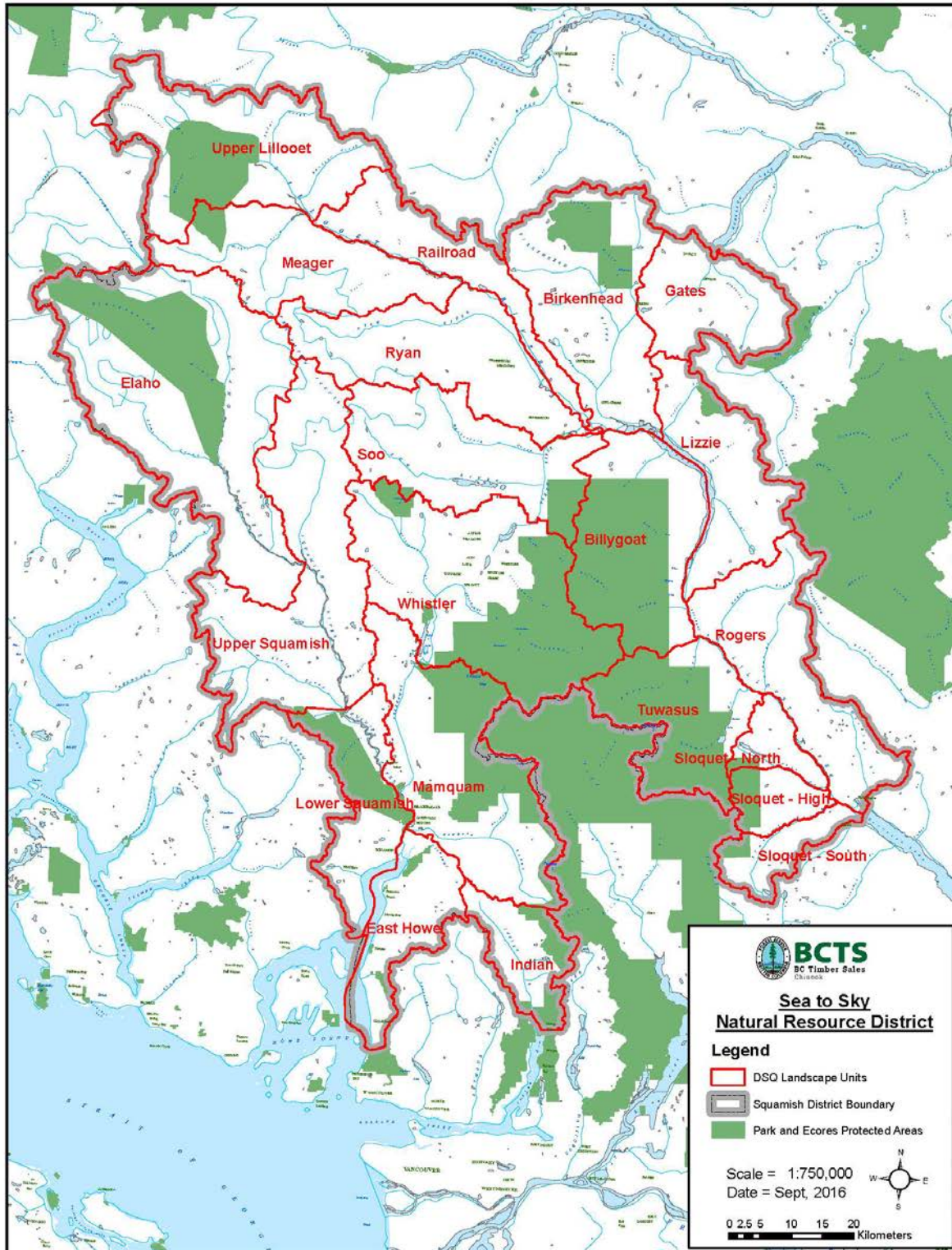
The attached FSP maps, at a 1:50,000 scale, show the FDUs, agreements under the *Forest Act* and other features located within those FDUs.

All FDUs were in effect on the Date of submission of this FSP.

Figure 1 provides an overview map of the FSP area and the FDUs that have been in effect since the submission of this FSP on (*planned for September 3rd, 2017*). Refer to the attached FSP maps for details.

The FDUs have been updated as per FSP #179 Amendment # 11, to include Sloquet North, Sloquet High, and Sloquet South, and the show the change in the Whistler FDU boundary.

Figure 1. Overview map of the FSP area and the FDUs



1.4 Road Permits

Road Permits in effect are listed in **Table B4**.

1.5 Land Use Designations

Section 14 (3)

The things that under subsection (2) are to be identified in a forest stewardship plan referred to in that subsection are each

- (a) ungulate winter range,*
- (b) wildlife habitat area,*
- (c) fisheries sensitive watershed,*
- (d) lakeshore management zone, including specifying the width of the zone, if the zone is identified on a map accompanying the establishment of the lakeshore management zone,*
- (e) scenic area,*
- (f) lake identified as an L1 lake under section 49 (1) (b) (ii) if the lake has been identified on a map accompanying the identification,*
- (g) community watershed,*
- (h) old growth management area,*
- (i) area in which commercial timber harvesting is prohibited by another enactment,*
- (j) cutting permit and road permit held by the agreement holder if that is the person required to prepare the plan, and*
- (k) road permit or timber sale licence granted or entered into by the timber sales manager if he or she is the person required to prepare the plan.*

Table 1. Identification of land use designations for the applicable FDUs as per Section 14 (3) of the FPPR.

DESIGNATION	FDU	DATE (Y/M/D)
Section 14(3)(a) UWR		
Ungulate Winter Range #U2-002 (Mountain Goat) Soo TSA	Refer to order for location details	2003/10/06
Ungulate Winter Range #U2-005(Deer and Moose Winter Range) Soo TSA	Refer to order for location details	2014/11/17
Ungulate Winter Range #U2-007 (Mountain Goat) TFL38	Refer to order for location details	2007/07/05
Ungulate Winter Range #U-2-008 (black tailed deer and mule deer)TFL38	Refer to order for location details	2007/07/05
Ungulate Winter Range #U2-010 (moose Winter Range) TFL38	Refer to order for location details	2005/03/17
Section 14(3)(b) WHA		
Order- WILDLIFE HABITAT AREAS 2-517 TO 2-525 (Spotted Owl)	Refer to order for location details	2013/02/28
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 Also applies to Coastal Tailed Frog	Refer to order for location details	2010/08/25
Order – Wildlife Habitat Areas #2-322 to 2-343, 2-345 to 2-350, 2-355, 2-357 to 2-371 Grizzly Bear – Squamish Forest District	Refer to order for location details	2007/06/28
Order – Wildlife Habitat Areas # 2-172 to 2-175, 2-177 to 2-193, 2-204, 2-254 to 2-270 (Grizzly Bear)	Refer to order for location details	2006/05/23
ORDER – WILDLIFE HABITAT AREAS 2-303 TO 2-306, 2-308, 2-309 & 2-316 (Marbled Murrelet)	Refer to order for location details	2014/04/15
Section 14(3)(c) Fisheries Sensitive Watersheds	n/a	None in effect
Section 14(3)(d) Lakeshore management zone	n/a	None in effect
Section 14(3)(e)		
Sea to Sky Scenic Area and VQO for HWY 99 Corridor	Refer to order for location details	1995/12/18
Ministerial Order ESTABLISHMENT OF SCENIC AREA AND VISUAL QUALITY OBJECTIVES FOR THE SHANNON CREEK WATERSHED WITHIN THE SEA TO	East Howe	2016/10/25

DESIGNATION	FDU	DATE (Y/M/D)
Section 14(3)(g) Community Watersheds		
Agnew Community Watershed (Agnew Creek)	Whistler	1995/06/15
Alberta Community Watershed (Alberta Creek)	East Howe	1995/06/15
Alpha Community Watershed	Whistler	1995/06/15
Blackcomb Community Watershed	Whistler	1995/06/15
Brew Community Watershed	Whistler	1995/06/15
Catiline Community Watershed	Lizzie	1995/06/15
Charles Community Watershed (Charles Creek)	East Howe	1995/06/15
D'Arcy Community Watershed	Gates	1995/06/15
Harvey Community Watershed (Harvey Creek)	East Howe	1995/06/15
Magnesia Community Watershed (Magnesia Creek)	East Howe	1995/06/15
Mashiter Community Watershed	Mamquam	1995/06/15
McCulloch Community Watershed	Lizzie	1995/06/15
Mineral Community Watershed	East Howe	1995/06/15
Newman Community Watershed	East Howe	1995/06/15
Pemberton Community Watershed	Ryan	1995/06/15
Peq Community Watershed	Railroad	1995/06/15
Rideau Community Watershed	Whistler	1995/06/15
Rogowski Community Watershed	Birkenhead	1995/06/15
Rundle Community Watershed (Rundle Creek)	East Howe	1995/06/15
Spruce Community Watershed	Gates	1995/06/15
Stawamus Community Watershed	East Howe	1995/06/15
Twenty-one Mile Community Watershed (Twenty-one mile Creek)	Whistler	1995/06/15
Whistler Community Watershed	Whistler	1995/06/15
Section 14 (3)(h) Old Growth Management areas		
East Howe LUP, Indian LUP and Lower Squamish LUP	East Howe, Indian, and Lower Squamish	2003/08/20
Rogers LUP	Rogers	2004/04/14
Ryan LUP, Billygoat LUP, Railroad LUP, Soo LUP, Meager LUP and Upper Lillooet LUP	Ryan, Billygoat, Railroad, Soo, Meager and Upper Lillooet	2004/09/06
Gates LUP and Birkenhead LUP	Gates and Birkenhead	2005/05/09
Ministerial order, Land Use Objectives for the Whistler Landscape Unit	Whistler	2015/08/20
Section 14 (3)(i)		
TFL38 Lava Creek Douglas Fir Grove (40ha)	Elaho	
Ministerial Orders		
Land Use Objectives for the Sea to Sky Land and Resource Management Plan	Refer to order for location details	2013/08/13

2. Results, Strategies and Measures

This section specifies the results, strategies and/or measures in relation to established objectives that are applicable to the identified FDUs.

2.1 Soils

2.1.1 Relevant established objectives: Sections 5, 12.2, 35 and 36 of the FPPR

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

Section 12 (2) After December 31, 2004, for a forest stewardship plan or amendment to one, it is sufficient compliance with the objectives referred to in section 5 (1) (b) (ii) of the Act if the plan or amendment when submitted to the minister for approval conforms to those objectives as they were in effect 4 months before the date of the submission.

Section 35 (1) In this section:

"first agreement holder" means an agreement holder that is not a fibre recovery tenure holder;

"roadside work area" means the area adjacent to a road where one or both of the following are carried out:

(a) decking, processing or loading timber;

(b) piling or disposing of logging debris;

"sensitive soils" means soils that, because of their slope gradient, texture class, moisture regime, or organic matter content have the following risk of displacement, surface erosion or compaction:

(a) for the Interior, a very high hazard;

(b) for the Coast, a high or very high hazard.

(2) Repealed. [B.C. Reg. 580/2004, s. 30 (a).]

(3) An agreement holder other than a holder of a minor tenure or a fibre supply licence to cut, which holder is carrying out timber harvesting, must not cause the amount of soil disturbance on the net area to be reforested to exceed the following limits:

(a) if the standards unit is predominantly comprised of sensitive soils, 5% of the area covered by the standards unit, excluding any area covered by a roadside work area;

(b) if the standards unit is not predominantly comprised of sensitive soils, 10% of the area covered by the standards unit, excluding any area covered by a roadside work area;

(c) 25% of the area covered by a roadside work area.

(4) An agreement holder may cause soil disturbance that exceeds the limits specified in subsection (3) if the holder

(a) is removing infected stumps or salvaging windthrow and the additional disturbance is the minimum necessary, or

(b) is constructing a temporary access structure and both of the following apply:

(i) the limit set out in subsection (3) (a) or (b), as applicable, is not exceeded by more than 5% of the area covered by the standards unit, excluding the area covered by a roadside work area;

(ii) before the regeneration date, a sufficient amount of the area within the standards unit is rehabilitated such that the agreement holder is in compliance with the limits set out in subsection (3).

(4.1) Despite subsections (3) and (4), if a first agreement holder is authorized to carry out timber harvesting in an area and a fibre recovery tenure holder is authorized to carry out timber harvesting in an area that overlaps with the area of the first agreement holder, the agreement holders must not cause the cumulative amount of soil disturbance from all primary forest activities carried out on the area of overlap to exceed 25% of that area.

(4.2) Subsection (4.1) does not apply in respect of any area of overlap occupied by a permanent access structure.

(5) The minister may require an agreement holder to rehabilitate an area of compacted soil if all of the following apply:

(a) the area of compacted soil

(i) was created by activities of the holder,

(ii) is within the net area to be reforested, and

(iii) is a minimum of 1 ha in size;

(b) the holder has not exceeded the limits described in subsection (3) or the holders have not exceeded the limit described in subsection (4.1), as applicable;

(c) rehabilitation would, in the opinion of the minister,

(i) materially improve the productivity and the hydrologic function of the soil within the area, and

(ii) not create an unacceptable risk of further damage or harm to, or impairment of, forest resource values related to one or more of the subjects listed in section 149 (1) of the Act.

(6) An agreement holder who rehabilitates an area under subsection (4) or (5) must

(a) remove or redistribute woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, to the extent necessary to limit the concentration of subsurface moisture on the area,

(b) de-compact compacted soils, and

(c) return displaced surface soils, retrievable side-cast and berm materials.

(7) If an agreement holder rehabilitates an area under subsection (4) or (5) and erosion of exposed soil from the area would cause sediment to enter a stream, wetland or lake, or a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act, the agreement holder, unless placing debris or revegetation would not materially reduce the likelihood of erosion, must

(a) place woody debris on the exposed soils, or

(b) revegetate the exposed mineral soils.

[am. B.C. Regs. 580/2004, s. 30; 157/2012, Sch. 4, s. 2.]

Section 36 (1) An agreement holder must ensure that the area in a cutblock that is occupied by permanent access structures built by the holder or used by the holder does not exceed 7% of the cutblock, unless

- (a) there is no other practicable option on that cutblock, having regard to
 - (i) the size, topography and engineering constraints of the cutblock,
 - (ii) in the case of a road, the safety of road users, or
 - (iii) the requirement in selection harvesting systems for excavated or bladed trails or other logging trails, or
- (b) additional permanent access structures are necessary to provide access beyond the cutblock.

(2) If an agreement holder exceeds the limit for permanent access structures described in subsection (1) for either of the reasons set out in that subsection, the holder must ensure that the limit is exceeded as little as practicable.

(3) An agreement holder may rehabilitate an area occupied by permanent access structures in accordance with the results or strategies specified in the forest stewardship plan or by

- (a) removing or redistributing woody materials that are exposed on the surface of the area and are concentrating subsurface moisture, as necessary to limit the concentration of subsurface moisture on the area,
- (b) de-compacting compacted soils, and
- (c) returning displaced surface soils, retrievable side-cast and berm materials.

(4) If an agreement holder rehabilitates an area under subsection (3) (a) and erosion of exposed soil from the area would cause sediment to enter a stream, wetland or lake, or a material adverse effect in relation to one or more of the subjects listed in section 149 (1) of the Act, the agreement holder, unless placing debris or revegetation would not materially reduce the likelihood of erosion, must

- (a) place woody debris on the exposed soils, or
- (b) revegetate the exposed mineral soils.

[en. B.C. Reg. 580/2004, s. 31.]

2.1.2 Results, Strategies and Measures

Soils		
FDU		Result, Strategy or Measure
CHS201	All	RESULT: The TSM adopts Section 35 (soil disturbance limits) and Section 36 (permanent access structure limits) of the FPPR with regard to any cut blocks within which the TSM carries out or authorizes timber harvesting.

2.2 Wildlife

2.2.1 Relevant Established Objectives:

Sections 7, 8, 9, 9.1 of the FPPR

Section 7
 (1) The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for

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

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

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

Section 9.1
 The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.

2.2.2 Results, Strategies and Measures:

Species at Risk		
FDU		Result, Strategy or Measure
CHS202	East Howe, Lower Squamish, Whistler, Indian, Mamquam, Upper Squamish	Marbled Murrelet (<i>Brachyramphus marmoratus</i>) RESULT: The TSM will undertake to comply with the Order. Wildlife Habitat Areas: 2-303 to 2-306, 2-308, 2-309 and 2-316, (April 15, 2014).
CHS203	All	Spotted Owl (<i>Strix occidentalis</i>) RESULT: The TSM will undertake to comply with the Order. Wildlife Habitat Areas: 2-517 to 2-525, (February 28, 2013)
CHS204	Whistler, East Howe	Coastal Tailed Frog (<i>Ascaphus truei</i>) RESULT: The TSM will undertake to comply with the Order. Wildlife Habitat Areas: 2-272 to 297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 Grizzly Bear – Squamish Forest District (*Note: the Coastal Tailed Frog WHA is entirely overlapped by the Grizzly Bear WHA and is included in the same order.)
CHS205	Upper Lillooet, Meager, Elaho, Upper Squamish, Railroad, Ryan, Soo, Whistler, Mamquam, Gates, Lizzie, Rogers, Birkenhead	Grizzly Bear (<i>Ursus arctos</i>) RESULT: The TSM will undertake to comply with the Orders and the Notice. Order – “Wildlife Habitat Areas # 2-172 to 2-175, 2-177 to 2-175, 2-177 to 2-193, 2-204, 2-254 to 2-270” (May 23, 2006) Order – “Wildlife Habitat Areas #2-322 to 2-343, 2-345 to 2-350, 2-352 to 2-355, 2-357 to 2-371 Grizzly Bear – Squamish Forest District (June 23, 2007) Order – Wildlife Habitat Areas: 2-272 to 297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 Grizzly Bear – Squamish Forest District, (August 25, 2010) Notice – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF GRIZZLY BEAR IN THE SQUAMISH NATURAL RESOURCE DISTRICT Amendment, (August 17, 2011)
CHS206	All	Northern Goshawk (<i>Accipiter gentilis laingi</i>) We have two subspecies of Northern Goshawk in British Columbia: a coastal subspecies (<i>A. g. laingi</i>) and an interior subspecies (<i>A. g. atricapillus</i>). Both are red-listed species at risk. There are no WHA objectives -or FPPR Section 7 Notices currently in effect for Northern Goshawk in the Sea to Sky Natural Resource District. STRATEGY: If Northern Goshawk is identified during planning or timber harvest operations , the TSM will: 1) seek advice from a qualified professional, as per the <i>Wildlife Act</i> , and 2) ensure that the advice is incorporated into a plan.

CHS207	All	<p>Pacific Water Shrew (<i>Sorex bendirii</i>)</p> <p>There are no WHA objectives or FPPR Section 7 Notices currently in effect for Pacific Water Shrew in the Sea to Sky Natural Resource District.</p> <p>STRATEGY:</p> <p>If Pacific Water Shrew is identified during planning or timber harvest operations, the TSM will:</p> <ol style="list-style-type: none"> 1) seek advice from a qualified professional, as per the <i>Wildlife Act</i>, and 2) ensure that the advice is incorporated into a plan.
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Survival of Regionally important wildlife		
FDU		Result, Strategy or Measure
CHS208	All	The Ministry responsible for the <i>Wildlife Act</i> has not identified regionally important wildlife within the FDUs covered by this FSP.

Winter Survival of Specified Ungulate Species		
FDU		Result, Strategy or Measure
CHS209	All	<p>RESULT: The TSM will undertake to comply with the objectives established under FPPR Sections 9(2) and 12(1) of the following GAR Orders:</p> <p>#U2-002, Mountain goat (<i>Oreamnos americanus</i>) Soo TSA (October 6, 2003);</p> <p>#U-2-005, Amendment to Ungulate Winter Range U-2-005 Black tailed Deer and Moose- Sea to Sky Forest District, Soo TSA (October 31, 2014);</p> <p>#U-2-007, Ungulate Winter Range (mountain goat) (July 5, 2007);</p> <p>#U-2-008, Ungulate Winter Range (black-tailed deer & mule deer) (July 5, 2007);</p> <p>#U2-010, Ungulate Winter Range (Moose (<i>Alces alces</i>), within TFL38) (March 17, 2005),</p>

2.3 Water, Fish, Wildlife and Biodiversity in Riparian Areas

2.3.1 Relevant established objectives

Sections 8, 8.1, 8.2, 12(3), and 12.3 of the FPPR

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

Objectives set by government for fish habitat in fisheries sensitive watersheds

Section 8.1 (1) *In this section, "fisheries sensitive watershed" means an area identified in Schedule 2 of this regulation*

(a) with significant downstream fisheries values continued under section 180 (f) of the Act and significant watershed sensitivity continued under section 180 (g) of the Act, and

(b) for which there is no fisheries sensitive watershed objective.

(2) *Until December 31, 2005 the objective set by government for fish habitat in fisheries sensitive watersheds is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities in the fisheries sensitive watershed from resulting in a material adverse impact on the habitat of the fish species for which the fisheries sensitive watershed was established.*

(3) *The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.*

(4) *If satisfied that the objective set out in subsection (2) is not required to provide special management, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.*

(5) *If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.*

[en. B.C. Reg. 62/2005, s. 2.]

Section 8.2 (1) *In this section, "community watershed" means a community watershed*

(a) that is continued under section 180 (e) of the Act, and

(b) for which a water quality objective has not been

(i) continued under section 181 of the Act, or

(ii) established under the Government Actions Regulation.

(2) *The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in*

(a) a material adverse impact on the quantity of water or the timing of the flow of the water to the waterworks, or

(b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under

(i) an enactment, or

(ii) the licence pertaining to the waterworks.

(3) *The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.*

(4) *If satisfied that the objective set out in subsection (2) is not required to provide special management the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.*

(5) *If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.*

Section 12 (3) *Despite section 12.1 (2) and (6), a person who prepares a forest stewardship plan must specify in it, for the objective set out in section 8, a result or strategy that addresses retention of trees in a riparian management zone.*

Section 12.3 *Conditional exemption — from one or more of sections 47 to 53*

2.3.2 Objectives set by Government for Fish Habitat in Fisheries Sensitive Watersheds: Sections 47 to 51, 52(2) and 53 of the FPPR

Section 47 *Stream Riparian Classes*

Section 48 *Wetland riparian classes*

Section 49 *Lake riparian classes*

Section 50 *Restrictions in a riparian management area*

Section 51 *Restrictions in a riparian reserve zone*

Section 52(2) *Restrictions in a riparian management zone*

(2) An authorized person who cuts, modifies or removes trees in a riparian management zone for an S4, S5 or S6 stream that has trees that contribute significantly to the maintenance of stream bank or channel stability must retain enough trees adjacent to the stream to maintain the stream bank or channel stability, if the stream

(a) is a direct tributary to an S1, S2 or S3 stream,

(b) flows directly into the ocean, at a point near to or where one or more of the following is located:

(i) a herring spawning area;

(ii) a shellfish bed;

(iii) a saltwater marsh area;

(iv) an aquaculture site;

(v) a juvenile salmonid rearing area or an adult salmon holding area, or

(c) flows directly into the ocean at a point near to the location of an area referred to in paragraph (b) and failure to maintain stream bank or channel stability will have a material adverse impact on that area.

[am. B.C. Reg. 580/2004, s. 39.]

Section 53 *Temperature sensitive streams*

An authorized person who fells, modifies or removes trees in a riparian management area adjacent to a temperature sensitive stream, or a stream that is a direct tributary to a temperature sensitive stream, must retain either or both of the following in an amount sufficient to prevent the temperature of the temperature sensitive stream from increasing to an extent that would have a material adverse impact on fish:

(a) streamside trees whose crowns provide shade to the stream;

(b) understory vegetation that provides shade to the stream.

[en. B.C. Reg. 580/2004, s. 40.]

2.3.3 Results, Strategies and Measures:

Water, Fish, Wildlife and Biodiversity in Riparian Areas		
FDU		Result, Strategy or Measure
CHS210	All	No fisheries sensitive watersheds have been identified within the area covered by this FSP.
CHS211	All	RESULT: The TSM adopts -Sections 47 to 51, 52(2) and 53 of the FPPR with respect to primary forest activities that are carried out or authorized by the TSM in relation to riparian classes or restrictions within them.
CHS212	All	STRATEGY: Prior to authorizing primary forest activities within a community watershed to which Section 8.2 of the FPPR applies, the TSM will : a) ensure a hydrologic review is carried out by a qualified professional within the 5 year period immediately before the primary forest activity occurs, b) ensure the hydrologic review considers potential impacts on water quality, water quantity, risks to public health, timing of water flows, current watershed health, cumulative effects of sediment sources, riparian conditions, and peak flow increases within the watershed, c) consider existing IWMPs, and d) Ensure the primary forest activity is consistent with the recommendations of the hydrological review.
CHS213	All	STRATEGY: To address retention in riparian management zones(RMZ) with respect to Sections 8 and 12(3) of the FPPR, the TSM will: a) ensure that retention levels within RMZs are determined by a qualified professional through a riparian assessment that considers Schedule 1(2) of the FPPR, b) design cutblocks and roads in a manner that is consistent with the retention levels as determined by the qualified professional as described in (a) and, c) ensure those retention levels are specified in a plan.
CHS214	Upper Squamish, Elaho, Soo, Ryan, Railroad, Meager	The TSM will undertake to comply with the order in relation to the Objectives for Floodplain management in riparian areas specified in the Sea to Sky Floodplain Management Plan. Ministerial Order – Land Use Objectives of the Sea-to-Sky Land and Resource Management Plan, dated April 4, 2011, amendment (August 13, 2013)

2.4 Fish

2.4.1 Relevant Established Objectives: Section 8 of the FPPR

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

2.4.2 Results, Strategies and Measures:

Fish		
FDU		Result, Strategy or Measure
CHS214	All	RESULT: Consistency with the objective for fish within riparian areas is achieved through the results and strategies provided in Section 2.3 Water (CHS210, CHS212 and CHS213) of this FSP.

2.5 Biodiversity

2.5.1 Objectives that were established or continued under sections 3-5 of the Forest Practices Code of BC Act, and Sections 8, 9, 9.1, 12.4, 12.5, 64 and 65 of the FPPR

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

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

Objectives set by government for wildlife and biodiversity — stand level

Section 9.1 The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.

Section 12 (4) If a land use objective conflicts with an objective described in this Division, a person who prepares a forest stewardship plan is exempt from specifying a result or strategy in relation to the objective described in this Division, to the extent that doing so would conflict with the land use objective.

Section 12 (5) If 2 or more established objectives are applicable to

(a) a common area, and

(b) the same or a similar subject matter,

the minister may exempt a person who is required to prepare a forest stewardship plan from the requirement to specify a result or strategy for all but one of the established objectives.

Maximum cutblock size

Section 64

(1) If an agreement holder other than a holder of a minor tenure harvests timber in a cutblock, the holder must ensure that the size of the net area to be reforested for the cutblock does not exceed

(a) 40 hectares for areas located in the Kootenay Boundary Forest Region, South Coast Forest Region, Thompson Okanagan Forest Region or West Coast Forest Region, as established by the Administrative Boundaries Regulation, and

(b) 60 hectares for areas located in the Cariboo Forest Region, Northeast Forest Region, Omineca Forest Region or Skeena Forest Region, as established by the Administrative Boundaries Regulation.

(2) Subsection (1) does not apply to an agreement holder where

(a) timber harvesting

(i) is being carried out on the cutblock

(A) to recover timber damaged by fire, insect infestation, wind or other similar events, or

(B) for sanitation treatments, or

(ii) is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance, and

(b) the holder ensures, to the extent practicable, that the structural characteristics of the cutblock after timber harvesting has been substantially completed resemble an opening that would result from a natural disturbance.

(3) Subsection (1) does not apply if the timber harvesting that is being carried out on the cutblock retains 40% or more of basal area of the stand that was on the cutblock before timber harvesting.

(4) Subsection (1) does not apply if no point within the net area to be reforested is

(a) more than two tree lengths from either

(i) the cutblock boundary, or

(ii) a group of trees reserved from harvesting that is greater than or equal to 0.25 ha in size, or

(b) more than one tree length from a group of trees reserved from timber harvesting that is less than 0.25 ha in size.

[am. B.C. Regs. 580/2004, s. 42; 137/2014, Sch. 4, s. 2.]

Harvesting adjacent to another cutblock

Section 65

(1) In this section:

"adjacent" means an area that is sufficiently close to a cutblock that, due to its location, could directly impact on, or be impacted by, a forest practice carried out within the cutblock;
 "existing cutblock" means a cutblock that was previously harvested under an agreement other than a minor tenure;
 "new cutblock" means a cutblock on which harvesting has not yet started and that is adjacent to an existing cutblock;
 "non-conforming portion" means an area within an existing cutblock on which the stocking and height requirements of subsection (3) have not been met.

(2) An agreement holder other than a holder of a minor tenure must not harvest timber on a new cutblock, unless

(a) all existing cutblocks that are adjacent to the new cutblock meet the requirements set out in subsection (3), or
 (b) the combined area of the new cutblock and any non-conforming portions that are immediately adjacent to the new cutblock does not exceed the requirements relating to cutblock size set out in section 64 (1) [maximum cutblock size].

(3) For the purpose of subsection (2) (a), an existing cutblock must meet the criteria set out in one of the following paragraphs:

(a) at least 75% of the net area to be reforested of the existing cutblock is stocked such that the average height of the tallest 10% of the trees on the area is a minimum of 3 m and

(i) is stocked in accordance with the applicable stocking standards, as described under section 16 [stocking standards],

(ii) if the area is on the Coast, other than the Nass timber supply area, is stocked with at least 500 trees/ha of a commercially valuable species that are at least 1.3 m in height, or

(iii) if the area is in the Interior or in the Nass timber supply area, is stocked with at least 700 trees/ha of a commercially valuable species that are at least 1.3 m in height;

(b) the part of the net area to be reforested of the existing cutblock that is closest to the new cutblock

(i) must be at least half of the net area to be reforested,

(ii) is stocked such that the average height of the tallest 10% of the trees on the area is a minimum of 3 m, and

(iii) is stocked

(A) in accordance with the applicable stocking standards for that cutblock, as described under section 16,

(B) if the area is on the Coast, other than the Nass timber supply area, with at least 500 trees/ha of a commercially valuable species that are at least 1.3 m in height, or

(C) if the area is in the Interior or in the Nass timber supply area, with at least 700 trees/ha of a commercially valuable species that are at least 1.3 m in height.

(4) Subsection (2) does not apply if section 64 (2), (3) or (4) apply to the new cutblock.

[am. B.C. Reg. 580/2004, s. 43.]

2.5.2 Results, Strategies and Measures:

Biodiversity		
FDU		Result, Strategy or Measure
CHS215	All	RESULT: The TSM will undertake to comply with Sections 64 and 65 of the FPPR as they apply to cutblocks within which the TSM carries out or authorizes timber harvesting.
CHS1216	Birkenhead, East Howe, Gates, Indian, Lower Squamish, Rogers, Billygoat, Meager, Railroad, Ryan, Soo, Upper Lillooet	RESULT: Regarding the "Order to Establish a Landscape Unit and Objectives" the TSM will manage landscape level biological diversity by designing cut blocks and roads in a manner that is consistent with Objective 1 of the Order. (refer to Appendix C for Results and Strategies for each Objective by FDU)
CHS217	Birkenhead, East Howe, Gates, Indian, Lower Squamish, Rogers, Billygoat, Meager, Railroad, Ryan, Soo, Upper Lillooet	RESULT: Regarding the "Order to Establish a Landscape Unit and Objectives" the TSM will manage stand level structural diversity by designing cut blocks and roads in a manner that is consistent with Objective 2 of the Order. These designs will be consistent with Section 66 and 67 of the FPPR.

CHS218	Lizzie, Mamquam, Sloquet High, Sloquet North, Sloquet South, Tuwasus, Whistler	RESULT: Regarding the “ <i>Order to Establish A Landscape Unit and Objectives</i> ”, the TSM will manage landscape level biological diversity and by designing cutblocks and roads in a manner that is consistent with Objective One of the orders (refer to Appendix C for Results or Strategies for each Objective by FDU)
CHS219	Lizzie, Mamquam, Sloquet High, Sloquet North, Sloquet South, Tuwasus, Whistler	RESULT: Regarding the draft order “ <i>Order to Establish A Landscape Unit and Objectives</i> ”, the TSM will manage stand level structural diversity by designing cutblocks and roads in a manner that is consistent with Objective Two of the draft orders (refer to Appendix C for Results or Strategies for each Objective by FDU) These designs will be consistent with Section 66 and 67 of the FPPR.
CHS220	Elaho, Upper Squamish	STRATEGY: Regarding the “ <i>Order Establishing Provincial Non-Spatial Old Growth Objectives</i> ”, within the Elaho and Upper Squamish FDUs, the TSM will: (1) work with affected holders of major licences to ensure the seral stage distribution targets outlined in Table 2 (<i>Old Growth Retention Targets for Non-spatial Landscape Units</i>) are met, prior to carrying out or authorizing forest practices, (2) not issue a TSL or RP that will cause any of the seral stage distribution targets to be exceeded until a suitable recruitment strategy has been developed in consultation with FLNRO and all other appropriate agencies. RESULT: The TSM will comply with Sections 66 and 67 of the FPPR as they apply to cut blocks within which the TSM carries out or authorizes timber harvesting. See Table 2

Table 2: Old Growth Retention Targets for Non-spatial Landscape Units.

% old forest retention >250 yrs						
FDU (Landscape Unit)	Biodiversity Emphasis Option	CWH*		ESSFmw	IDFww	MH mm1, mm2
		NDT 1 (vm1/vm2)	NDT 2 (dm, ds1, ms1, ms2)	NDT 2	NDT 4	NDT 1
Elaho CWH ds1, ms1, MHmm2	Intermediate	N/A	>9	N/A	N/A	>19
Upper Squamish CWH ds1, ms1, MHmm2	Low	N/A	>9	N/A	N/A	>19

2.6 Cultural Heritage Resources

2.6.1 Relevant Established Objectives Section 10 of the FPPR

Section 10

The objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are
(a) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and
(b) not regulated under the Heritage Conservation Act

2.6.2 Results, Strategies and Measures:

Cultural Heritage Resources		
FDU		Result, Strategy or Measure
CHS221	All	<p>STRATEGY: Regarding the objective for cultural heritage resources, set out in Section 10 of the FPPR, the strategies that apply to all FDUs are:</p> <ol style="list-style-type: none"> 1) on an annual basis, at a minimum, the TSM will refer to applicable First Nations a map of sufficient scale (e.g. 1:20,000) and referral package detailing the areas proposed for timber harvest and road construction, request cultural heritage resource information within the proposed areas, and provide a timeframe for First Nations to respond that is consistent with the First Nation's Forest Consultation and Revenue Sharing Agreement or higher level agreements, 2) when designing a cutblock or road the TSM will identify: <ol style="list-style-type: none"> a) the portion of the area occupied by known cultural heritage resource b) the nature of known cultural heritage resource c) whether known cultural heritage resource is to be protected or conserved and d) if known cultural heritage resource is to be protected or conserved, what specific actions, if any, are to apply to the forest practices carried out on the area. 3) where responses are received or a cultural heritage resource is identified, the TSM will: <ol style="list-style-type: none"> a) review the comments provided and work with First Nations to determine, options to minimize or mitigate the impact of timber harvest and road construction activities on the cultural heritage resource, if required, b) evaluate the nature and extent of the responses received or cultural heritage resource within the area of proposed timber harvest and road construction, including making reasonable efforts to share this information with the applicable First Nations, 4) the TSM will send written documentation to applicable First Nations detailing referral discussions, which will include specific actions to be taken, if any, to conserve or protect the identified cultural heritage resource, 5) the TSM will carry out or authorize forest activities only to the extent that the forest practice does not damage or render ineffective the cultural heritage resource that has been identified for protection,

CHS221	ALL	<p>6) the TSM will carry out or authorize forest activities only to the extent that the forest practice is consistent with the constraints, if any, specified in the design of the cutblock or road for the cultural heritage resource that has been identified for conservation,</p> <p>7) if the TSM is carrying out or has authorized timber harvest or road construction in a cutblock or road, and a previously unidentified relevant cultural heritage resource is encountered, the TSM will:</p> <ul style="list-style-type: none"> a) require operations within the cutblock or road to cease, b) consult with the applicable First Nation c) determine: <ul style="list-style-type: none"> i. the nature of the cultural heritage resource, ii. whether the cultural heritage resource is to be protected or conserved, and iii. if the cultural heritage resource is to be protected or conserved, what constraints, if any, are to apply to the primary forest activity carried out on the area, d) modify the design of the cutblock or road to protect or conserve the cultural heritage resource, if required, e) authorize operations to resume within the cutblock or road to the extent that the operations are consistent with the modified design, if required.
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Cultural Places		
FDU		Result, Strategy or Measure
CHS222	All	RESULT: The TSM will undertake to comply with the order regarding the Objectives for First Nations Cultural Places as specified in the Ministerial Order “ <i>Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan</i> ”, (August 13, 2014)

Cultural Management Areas		
FDU		Result, Strategy or Measure
CHS223	Birkenhead, Billygoat, Elaho, Lizzie, Rogers, Sloquet-South, Sloquet-High, Sloquet-North, Soo, , Upper Squamish, Whistler, Tuwasus	<p>RESULT: The TSM will undertake to comply with the order regarding the Objectives for First Nations Cultural Management Areas. As specified in the <i>Ministerial Order “Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan”</i>, (August 13, 2013)</p> <p>For cultural management areas defined under this Order, where commercial timber harvesting is allowed, the TSM will refer to applicable First Nations regarding proposed timber harvest and road construction and will apply the process detailed in CHS221.</p>

2.7 Recreation Resources

2.7.1 Relevant Established Objectives: Section 180 of FRPA

Section 180

Every area established or continued under the Code as

- (a) an ungulate winter range,
- (b) a wildlife habitat area,
- (c) a scenic area,
- (d) an emergency bark beetle management area,
- (e) a community watershed,
- (f) an area with significant downstream fisheries values,
- (g) an area with significant watershed sensitivity,
- (h) a lakeshore management zone,
- (i) an interpretive forest site,
- (j) a recreation site,
- (k) a recreation trail, or
- (l) a forest ecosystem network

that was in effect immediately before the effective date is continued under this Act.

2.7.2 Results, Strategies and Measures

Recreation Resources		
FDU		Result, Strategy or Measure
CHS225	All	STRATEGY: Regarding each established recreation site, recreation trail or interpretive forest for which there are applicable established objectives, the TSM will: <ul style="list-style-type: none"> a) design cut blocks and roads in a manner that is consistent with the applicable established objective, b) share information regarding the proposed operations with RSTBC and other stakeholders, and c) Provide a map of sufficient scale (e.g. 1:20,000) that identifies proposed development, with a request for input as part of information sharing.

As of the submission date of the FSP, the established recreation sites, trails and interpretive forest(s) for which there is an established objective applicable to the FSP, are listed in Table 3.

Table 3. Established Recreation Sites and Trails and Interpretive Forests

Recreation Trails /Sites/Interpretive Forests (Designated)	Project #	Date of Establishment
Alexander Falls Site	REC0108	2000/02/29
Anderson Beach Site	REC6276	2009/01/21
RSTBC Bain Creek (MARINE)	REC169900	2014/11/07
Barkley Valley/Cr Trail	REC6047	2000/02/29
Blackwater Lake	REC0227	1991/08/01
Bob McIntosh Recreation Trail	REC33008	2010/01/04
Brandywine Meadows Trail	REC3215	2001/01/28
Brandywine Parking Lots (was REC16019)	REC33093	2013/03/28
Brandywine Snowmobile Trail	REC6902	2003/05/15
Brohm Lake Site	REC0106	2001/03/28
Brohm Lake IFS	REC6266	2000/02/29
Bungee	REC6891	2002/08/09
Cal Cheak/Brandywine Trail	REC3218	2001/01/28
Cal Cheak Confluence	REC0127	1991/08/01
Callaghan Valley Ski Trails	REC32329	2009/01/29
Cat Lake	REC0105	1991/08/01
Chain Lakes Trail	REC166985	2001/08/01

Recreation Trails /Sites/Interpretive Forests (Designated)	Project #	Date of Establishment
Chek canyon [Conroy] Site	REC32295	2010/01/04
Dead End Loop Recreation Trail	REC33036	2010/01/04
Deeks Cr. Trail	REC6121	2001/03/28
Deminger Interpretive	REC6326	2001/03/28
Driftwood Bay	REC0289	1991/08/01
Echo Lake Site	REC6243	2000/02/29
Elaho Giants	REC6358	2001/03/28
Elaho Site (E-100)	REC154996	2013/03/28
Flat Alley Recreation Trail	REC32397	2010/01/04
Half Nelson Recreation Trail	REC32953	2010/01/04
Harrison Lillooet (Heritage Trail)	REC5636	2001/08/01
Hideaway	REC0266	1980/07/24
High Falls Site (23.5 Mile)	REC154994	2013/03/28
Islet View (MARINE)	REC169896	2014/11/07
Jane Lakes Trail	REC6122	2013/03/28
Kayak	REC6600	2001/03/28
Keyhole Falls Hot Springs	REC202717	2016/06/22
Levette Lake Site	REC6279	2009/01/29
Lions/Magnesia/Harvey Creeks Trail	REC3182	2000/12/14
Lizzie Bay	REC0225	1991/08/09
Lizzie Lake SITE	REC0233	1983/02/23
Lizzie Lake TRAIL	REC6124	1983/02/10
Made in the Shade Recreation Trail	REC33040	2010/01/04
Madely-Rainbow trail	REC6125	2002/01/04
Mashiter Recreation Trail	REC32491	2010/01/04
McGillivray Pass (Anderson Lake to GB)	REC4558	1992/06/11
Meager Cr. Hot-springs Site/Trail	REC0236	2000/06/25
Meager/Fish Lake R.Reserve	REC0235	2002/01/04
Molson Memorial Picnic Site	REC6422	2005/07/04
Mosquito Lake	REC0240	1991/08/01
Mount Sproatt Parking Lot	REC190992	2013/06/13
Mount Sproatt Snowmobile Trail	REC190994	2013/06/13
Mid-Altitude/Rainbow-Sproatt Flank Trail	REC6408	2001/01/28
Murrin Park Loop Trail	REC169751	2013/06/20
Norton Lake Site	REC6311	2003/05/15
Owl Creek Site	REC0219	1992/06/11
Owl Lake Trail	REC166988	2001/08/01
Owl Lakes Chain	REC3232	1980/07/07
Peanuts	REC6599	2001/03/28
Petgill Lake Trail	REC6130	2005/07/04
Powerhouse Plunge Recreation Trail	REC16116	2010/01/04
Powersmart (Upper)	REC32399	2010/01/04
Ramillies Channel (MARINE)	REC169906	2014/11/07
Ray Peters Recreation Trail	REC33012	2010/01/04
Ring Creek Rip Recreation Trail	REC16117	2010/01/04
Riverside	REC0265	1983/02/10
Roe Creek Snowmobile Trail	REC169687	2013/06/20
Rutherford Snowmobile Trail	REC6048	2000/12/14
Rutherford Winter Cabin	REC136012	2013/03/28
Sea to Sky (new, current)	REC33049	2013/03/28
Shadow Lake IFS	REC6265	2000/02/29
Showh Lake site Trail	REC3186	2000/12/14
Skookum Creek Rec Site	REC169083	2013/06/20

Recreation Trails /Sites/Interpretive Forests (Designated)	Project #	Date of Establishment
Soo River Falls Site	REC3064	2000/12/14
Soo River site	REC3063	2000/12/14
Sloquet Hotsprings	REC0023	1991/08/01
Spetch Creek Site	REC0230	1991/08/01
Strawberry Point	REC0221	1991/08/01
Tantalus Landing (MARINE)	REC169890	2014/11/07
Tenquille /Owl Lake Trail System	REC5637	2003/05/15
Tenquille trail from Lillooet River	REC166973	2001/08/01
Tenquille Lake	REC0237	1983/02/10
Tenquille Lake. (Branch 12) Trail	REC6131	2001/08/01
The Corners Recreation Trail	REC32503	2010/01/04
Thornbrough Channel (MARINE)	REC169898	2014/11/07
Twin One Creek	REC0218	1991/08/01
Upper Lillooet	REC6784	2002/01/04
Upper Power Smart Recreation Trail	REC32399	2010/01/04
Whistler Interpretive Forest	REC6264	2003/05/29
Whiskey Lake	REC6903	2003/05/15
Wonderland Recreation Trail	REC16124	2010/01/04
Young Lake	REC6900	2003/02/03
Zorro Bay (MARINE)	REC169894	2014/11/07

2.8 Visual Quality

2.8.1 Relevant Established Objectives

Scenic areas that were made known for the Sea to Sky Natural Resource District and Visual Quality Objectives (VQOs) that were formally established in the FSP are continued under Section 181 of FRPA.

Section 181

All objectives in respect of areas continued under section 180 that were in effect immediately before the effective date are continued as objectives under this Act.

As well within known scenic areas, recommend Visual Quality Classes (rVQC) were specified and are carried forward as VQO's under Section 17 of GAR.

Section 17

A visual quality class for a scenic area is continued under this regulation as a visual quality objective if

(a) the visual quality class has been

(i) set out before October 24, 2002 in a letter from the district manager to the holder of an agreement under the Forest Act, or

(ii) included in the most recent tree farm licence visual landscape inventory prepared by the holder of a tree farm licence and approved by the regional manager, and

(b) in existence on the coming into force of this section.

For the purposes of this FSP, the individual VQO categories (preservation, retention, partial retention, modification and maximum modification) are legally defined in Section 1.1 of the FPPR.

2.8.2 Results, Strategies and Measures

Visual Quality		
FDU		Result, Strategy or Measure
CHS226	All	<p>RESULT:</p> <p>The TSM will be consistent with:</p> <ul style="list-style-type: none"> a) The visual quality objectives as established by the District Manager and outlined in the letter to “All Licensees, Squamish Forest District” (December 18, 1995), and b) Any subsequent amendments made by the District Manager . <p>Prior to authorizing primary forest activities, where VQOs apply, the TSM will:</p> <ul style="list-style-type: none"> a) Ensure a detailed Visual Impact Assessment is completed by a qualified professional to ensure the activities are consistent with the VQO, taking into account the current state of the VQO and the effects of surrounding development. <p>The TSM may authorize road construction or timber harvesting that produces a landscape alteration in excess of that specified in the VQO when road or bridge construction is required to access resource values and no other practicable option exists. This rationale must be specified and written in a plan.</p>

2.9 Measures to Prevent the Introduction and Spread of Invasive Plants

2.9.1 Results, Strategies and Measures

Measures to Prevent the Introduction and Spread of Invasive Plants		
FDU		Result, Strategy or Measure
CHS227	All	<p>MEASURE:</p> <p>For the purposes of Section 47 of the FRPA, the TSM will do the following:</p> <ul style="list-style-type: none"> 1) Prior to undertaking any field activity that will result in soil disturbance, review the FLNRO’ Invasive Alien Plant Program (IAPP) database, to determine the presence of invasive plants in the vicinity of the proposed forest development activities. A field review will be completed to determine if new invasive plants exist or if existing invasive plants have spread beyond the location identified in the IAPP database. 2) When new invasive plants are identified or have spread beyond the reported location, this information will be reported to the IAPP database. 3) Measures to prevent the introduction and/or the spread of invasive plants will be specified in a plan. This plan may include: <ul style="list-style-type: none"> i. the timing of grass seed application, ii. washing of equipment capable of disturbing soils in the harvesting or road building phase to ensure that invasive plant reproductive material is removed iii. no storage of equipment in areas of infestation, iv. no use of material from infested soils, and v. Maintain records of the location and timing of grass seeding.

CHS227	All	<p>4) Preferred grass seed will be used and must have the following attributes:</p> <ul style="list-style-type: none"> a) high sod-forming content except in areas that are planted with tree seedlings, b) certified by the Canadian Seed Growers Association <ul style="list-style-type: none"> i. that the seed meets Common #1 Forage Grade or better standards for varietal purity established by the Association for seed of that kind of species (seeds Act, Seeds Regulation S. 2(1)), and c) is of native origin. <p>5) Timing of grass seeding is based on the following:</p> <ul style="list-style-type: none"> a) apply grass seed when germination has the best probability of success, b) where germination levels cover less than 80% of the treatment area, one additional application of grass seeding will be done. <p>6) Newly disturbed soils in the following areas will not be grass seeded:</p> <ul style="list-style-type: none"> a) soils that will be occupied by seedlings as part of the Net Area to be Reforested, b) soils where there are no known invasive plants within 500m of disturbed soils. <p>7) Grass seed must be applied where:</p> <ul style="list-style-type: none"> a) disturbed soils are created as a result of forest harvesting or road construction activities, b) disturbed soil has been created within 20m of the high water mark of any stream, wetland or lake regardless of 6) above c) forest harvesting or road construction activities is within a RMA of adjacent water bodies that are capable of transporting reproductive plant material
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2.10 Natural Range Barriers

2.10.1 Relevant Established Objectives:

Under Section 48 of FRPA and Section 18 of the FPPR, the FSP must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.

Natural range barriers

Section 48

(1) A person carrying out

(a) a forest practice, or

(b) a range practice

that directly or indirectly removes or renders ineffective a natural range barrier must carry out measures that are

(c) specified in an operational plan for the area, or

(d) authorized by the minister

to mitigate the removal or the ineffectiveness of the natural range barrier.

(2) Despite expiry of the operational plan referred to in subsection (1) (c), subsection (1) continues to apply to the holder of that plan in respect of any area that is

(a) in a forest development unit included in the plan, and

(b) subject to a cutting permit or road permit issued in respect of the plan before the plan expired.

(3) If a forest stewardship plan is amended to remove the holder of a licence or an agreement as a party to the plan, subsection (1) continues to apply to that holder in respect of any area that is

(a) in a forest development unit included in the plan, and

(b) subject to a cutting permit or road permit issued in respect of the plan before the plan was amended.

Section 18

For the purpose of section 48 [natural range barriers] 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

2.10.2 Results, Strategies and Measures:

Natural Range Barriers		
FDU		Result, Strategy or Measure
CHS228	Ryan	<p>MEASURE: The TSM will:</p> <ol style="list-style-type: none"> 1. Identify areas that are subject to, or adjacent to, tenures under the <i>Range Act</i> with respect to grazing of livestock. 2. Refer to the affected tenure holders under the <i>Range Act</i> of proposed timber harvest and road construction activities. 3. Where an affected agreement holder under the <i>Range Act</i> indicates that the proposed activities will remove or render ineffective a natural range barrier, using input from the agreement holder and a qualified professional, develop measures to mitigate the impact of timber harvest and road construction activities, including the re-establishment of a barrier (using a fence and/or cattleguard).

3 Additional FSP Information

In addition to objectives, strategies and results, there are several other items to be addressed in the FSP, as outlined in section 3.1 to 3.4

3.1 Stocking Standards

3.1.1 Specification of Situations and Circumstances under Section 16 of FPPR

Section 16

(1) A person required to prepare a forest stewardship plan must ensure that the plan specifies the situations or circumstances that determine when section 44 (1) [free growing stands generally] or section 45 [free growing stands collectively across cutblocks] will apply to an area.

(2) In specifying a stocking standard under this section, a person who prepares a forest stewardship plan may consider the factors set out in section 6 [factors relating to stocking standards] of Schedule 1.

(3) A person required to prepare a forest stewardship plan must ensure that the plan specifies, for each of the situations or circumstances specified under subsection (1) where

- (a) section 44 (1) (a) will apply, the regeneration date and stocking standards,
- (b) section 44 (1) (b) will apply, the free growing height and stocking standards,
- (c) section 45 (1) will apply, the regeneration date and the stocking standards, and
- (d) section 45 (2) will apply, the free growing date and the stocking standards, as approved by the chief forester.

(4) A person required to prepare a forest stewardship plan must ensure that the plan specifies stocking standards for areas referred to in section 44 (4), and the situations or circumstances that determine when the stocking standards will be applied.

(5) A holder of a major licence that is a forestry licence to cut entered into under section 24.8 of the Forest Act or converted into a forestry licence to cut under section 24.9 of the Forest Act is exempt from this section.

Stocking standards tables are based on the following references, as well as climate change information from various sources.

1. A Field Guide to Site Identification and Interpretation for the Vancouver Forest Region Land Management Handbook 28 (1994).
2. Reference Guide for FDP stocking standards (Dec 2002) footnotes updated Nov 2010.

In accordance with FRPA section 197(5), BCTS 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.

Figure 2 – Stocking Standards

STANDARDS REGIME ID	BGC ZONE	BGC SUB ZONE	BGC VARIANT	SITE SERIES	STANDARDS OBJECTIVE	STOCKING LAYER	TARGET STOCKING	MIN STOCKING	MIN PREFERRED STOCKING	MIN HORIZONTAL DISTANCE	HEIGHT RELATIVE TO COMP	PREFERRED SPECIES (minimum height)	ACCEPTABLE SPECIES (minimum height)	REGEN DELAY OFFSET YRS	FG LATE OFFSET YRS	Comments
1051856	CWH	dm		1		I	900	500	400	2	150	FDC(3.0) CW(1.5) HW(3.0)	PW(2.5) DR(4.0) EP(4.0)	3	20	HW: suitable in wetter portion of BEC unit, restricted to upper elevations of biogeoclimatic unit. DR: as minor component on nutrient medium to rich sites. EP: restricted to eastern portions of the Biogeoclimatic unit in Region as a minor species.
1051857	CWH	dm		1	deciduous mgmt	I	1200	700	500	2	150	DR(4.0)	MB(4.0) ACT(4.0) CW(1.5) HW(3.0)	3	11	DR: Elevation <450m; <30% slope on N, NE, NW aspect, <20% on E, SE, S, SW, or W aspect; on sites protected from winds; Plant 1400-1600 sph with large stock types 512's or larger; avoid cold air drainages, avoid hot dry exposures (ridges and bluffs), avoid sandy, rocky, gravelly shallow soils
1051858	CWH	dm		3		I	800	400	400	2	150	FDC(2.0) HW(2.0) CW(1.0)	LW(1.0) PW (2.0)	3	20	LW: on trial basis except in the NE portion of the Sea To Sky Natural Resource District Seed Planning Zone Lw1 where it can be planted operationally at a maximum of 200 stems/ha.
1051859	CWH	dm		4		I	900	500	400	2	150	FDC(3.0) CW(1.5)	PW(2.5) Lw(1.5) HW(3.0)	3	20	LW: on trial basis.
1051860	CWH	dm		5	deciduous mgmt	I	1200	700	500	2	150	DR(4.0)	MB(4.0) EP(4.0)	3	11	DR: Elevation- <450m; <30% slope on N, NE, NW aspect; <20% on E, SE, S, SW, or W aspect; on sites protected from winds; Plant 1400-1600 sph; with large stock types 512's or larger; avoid cold air drainages, avoid hot dry exposures (ridges and bluffs), avoid sandy, rocky, gravelly shallow soils
1051861	CWH	dm		5		I	900	500	400	2	150	CW(2.0) FDC(4.0)	PW(2.5) HW(4.0) DR(4.0)	3	20	DR: accepted as minor component.
1051862	CWH	dm		5	fire mgmt	I	900	700	600	2	100	FDC(3.0)	PW(2.5) LW(1.5) PY(0.6)	2	20	PW, LW: limited to low elevations and eastern portions of the subzone.
1051863	CWH	dm		6		I	900	500	400	2	150	CW(1.5) HW(3.0)	FDC(3.0) DR(4.0)	6	20	DR: accepted as minor component; FDC: on elevated microsites
1051864	CWH	dm		7		I	900	500	400	2	150	CW(2.0) FDC(4.0)	HW(4.0) BG(3.5) DR(4.0)	3	20	DR: accepted as minor component
1051865	CWH	dm		8		I	900	500	400	2	150	BG(3.5) CW(2.0)	DR(4.0)	3	20	DR: accepted as minor component
1051866	CWH	dm		9		I	900	500	400	1.5	150	CW(2.0)	BG(3.5) DR(4.0)	3	20	All species: on elevated microsites
1051867	CWH	dm		11		I	400	200	200	1.5	150	PLC(1.3)	CW(1.0)	3	20	All species: on elevated microsites
1051868	CWH	dm		12		I	800	400	400	1.5	150	CW(1.0)	HW(2.0) PW(2.5) SS(3.0)	3	20	All species: on elevated microsites; HW: suitable on thick forest floors

Figure 2 – Stocking Standards

STANDARDS REGIME ID	BGC ZONE	BGC SUB ZONE	BGC VARIANT	SITE SERIES	STANDARDS OBJECTIVE	STOCKING LAYER	TARGET STOCKING	MIN STOCKING	MIN PREFERRED STOCKING	MIN HORIZONTAL DISTANCE	HEIGHT RELATIVE TO COMP	PREFERRED SPECIES (minimum height)	ACCEPTABLE SPECIES (minimum height)	REGEN DELAY OFFSET YRS	FG LATE OFFSET YRS	Comments
1051869	CWH	dm		13		I	900	500	400	1.5	150	BG(3.5) CW(2.0) FDC(4.0)	DR(4.0)	3	20	FDC: on elevated microsites
1051870	CWH	dm		14		I	900	500	400	1.5	150	BG(3.5) CW(2.0)	DR(4.0)	3	20	All species: on elevated microsites
1051871	CWH	dm		15		I	800	400	400	1.5	150	CW(1.0)		3	20	All species: on elevated microsites
1051872	CWH	ds	1	1		I	900	500	400	2	150	FDC(2.3) CW(1.5)	PW(2.5) HW(1.0) DR(4.0)	3	20	CW: moved from acceptable to preferred to help manage localized areas of root rot; Hw: suitable as a major species in wetter portion of biogeoclimatic unit
1051873	CWH	ds	1	1, 5, 6	deciduous mgmt	I	1200	700	500	2	150	DR(4.0)	ACT(4.0) MB(4.0) EP(4.0)	3	11	DR: Elevation <450m; <30% on N, NE, NW aspect; <20% on E or W aspect; on sites protected from winds; Plant 1400-1600 sph; with large stock types 512's or larger; avoid cold air drainages, avoid hot dry exposures (ridges and bluffs), avoid sandy, rocky, gravelly shallow soils
1051876	CWH	ds	1	3		I	800	400	400	2	150	FDC(1.5)	PY(1.0) CW(1.0) HW(0.8) PLC(1.3)	3	20	PLC: restricted to nutrient-very-poor sites; PY: restricted to trial use, to nutrient-medium sites and to eastern portion of BEC unit in region
1051877	CWH	ds	1	4		I	800	400	400	2	150	FDC(2.3) CW(1.5)	PW(2.5) PY(1.3)	3	20	PY: restricted to trial use and to eastern portion of BEC unit in region
1051878	CWH	ds	1	5		I	900	500	400	2	150	FDC(2.3) CW(1.5)	PW(2.5) HW(1.0) SX(1.0) DR(4.0)	3	20	SX: restricted to upper elevations and to eastern portion of BEC unit in region; Pw: restricted to upper elevations of biogeoclimatic unit
1051879	CWH	ds	1	6		I	900	500	400	2	150	HW(1.0) FDC(2.3)	CW(1.5) DR(4.0)	6	20	DR: accepted as minor component; CW: suitable as a major species in wetter portion of biogeoclimatic unit;
1051880	CWH	ds	1	7		I	900	500	400	2	150	CW(2.0) FDC(3.0)	HW(1.3) BG(2.0) DR(4.0)	3	20	BG: restricted to lower elevations
1051881	CWH	ds	1	8		I	900	500	400	1.5	150	CW(2.0)	SX(2.0) SS(3.0) BG(2.0) DR(4.0)	3	20	BG: restricted to lower elevations
1051882	CWH	ds	1	9	mixed wood management	I	900	500	400	1.5	150	CW(2.0) BG(2.0)	DR(4.0)	3	20	All species-on elevated microsites; BG-restricted to lower elevations; DR- as minor component
1051883	CWH	ms	1	1		I	900	500	400	2	150	FDC(2.3) CW(1.5)	YC(1.5) BA(0.8) HW(1.5) SX(1.0)	3	20	HW: restricted to upper elevations; BA: restricted to upper elevations, restricted to northerly aspect; SX: restricted to upper elevations, minor component due to weevil risk
1051884	CWH	ms	1	3		I	800	400	400	2	150	CW(1.5) FDC(2.3)	HW(1.5) BA(0.8)	3	20	BA: restricted to northerly aspects

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STANDARDS REGIME ID	BGC ZONE	BGC SUB ZONE	BGC VARIANT	SITE SERIES	STANDARDS OBJECTIVE	STOCKING LAYER	TARGET STOCKING	MIN STOCKING	MIN PREFERRED STOCKING	MIN HORIZONTAL DISTANCE	HEIGHT RELATIVE TO COMP	PREFERRED SPECIES (minimum height)	ACCEPTABLE SPECIES (minimum height)	REGEN DELAY OFFSET YRS	FG LATE OFFSET YRS	Comments
1051885	CWH	ms	1	4		I	900	500	400	2	150	CW(2.0) FDC(3.0)	HW(2.0) PW(2.5) YC(2.0) BA(1.0)	3	20	HW, YC, BA: restricted to upper elevations; YC-restricted to western portion of BEC unit; SX restricted to eastern portion of biogeoclimatic unit in region
1051886	CWH	ms	1	5		I	900	500	400	2	150	CW(1.5) YC(1.5) BA(.8) HW(1.5)		6	20	YC, BA: restricted to upper elevations; YC: restricted to western portion of BEC unit; BA: restricted to northerly aspects
1051887	CWH	ms	1	6		I	900	500	400	2	150	FDC(3.0) CW(2.0) YC(2.0) SX(1.3)	HW(2.0) BG(2.5) BA(1.0)	3	20	YC: restricted to upper elevations & to western portion of BEC unit; SX: restricted to upper elevations; BG: restricted to lower elevations & to western portion of BEC unit; BA: restricted to northerly aspects & upper elevations of biogeoclimatic unit
1051888	CWH	ms	1	7		I	900	500	400	2	150	BA(1.0) CW(2.0) SX(4.0)	FDC(3.0) SS(1.3)	3	20	Ba- restricted to upper elevations; Fdc-on elevated microsites; (SX18)Sx-restricted to eastern portion of biogeoclimatic unit in region; (SS613)Ss-acceptable only in SW portion of district;
1051889	CWH	ms	1	8		I	900	500	400	1.5	150	CW(2.0) BA(1.0)	SS(1.3)	3	20	BA, CW: on elevated microsites; SS: acceptable only in SW portion of district
1051890	CWH	ms	1	11		I	800	400	400	1.5	150	CW(1.0) YC(1.0)	PW(2.5) SX(.8)	3	20	Cw, Sx: elevated microsites are preferred; Yc: restricted to upper elevations & to western portion of BEC unit in region
1051891	CWH	vm	1	1	deciduous mgmt	I	1200	700	500	2	150	DR(4.0)	ACT(4.0) MB(4.0)	3	11	DR: Elevation <300 m; <30% on N, NE, NW aspect, <20% on E or W aspect; on sites protected from winds; Plant 1400-1600 sph
1051892	CWH	vm	1	1		I	900	500	400	2	150	CW(1.5) HW(3.0) FDC(3.0) BA(1.8)	DR(4.0)	6	20	Where CWHvm1 is adjacent to geographically or above dm expand use of FDC as a preferred species and limit use of BA, CW and HW; BA: suitable minor spp on salal dominated sites
1051893	CWH	vm	1	2		I	400	200	200	1.5	150	PLC(1.3) CW(1.0) FDC(2.0)	HW(2.0)	3	20	FDC: restricted to southerly aspects
1051894	CWH	vm	1	3		I	800	400	400	2	150	CW(1.0) HW(2.0) FDC(2.0)	PLC(1.3)	6	20	FDC: restricted to southerly aspects
1051895	CWH	vm	1	4		I	900	500	400	2	150	CW(1.5) HW(3.0) FDC(3.0)	BA(1.8) SS(3.0)	3	20	Fdc-restricted to southerly aspects; Ss-acceptable only in SW portion of district;
1051896	CWH	vm	1	5		I	900	500	400	2	150	CW(1.5) HW(3.0) FDC(3.0) BA(1.8)	SS(3.0) Dr(4.0)	3	20	FDC: restricted to southerly aspects, elevated microsites are preferred; SS: acceptable only in SW portion of district

Figure 2 – Stocking Standards

STANDARDS REGIME ID	BGC ZONE	BGC SUB ZONE	BGC VARIANT	SITE SERIES	STANDARDS OBJECTIVE	STOCKING LAYER	TARGET STOCKING	MIN STOCKING	MIN PREFERRED STOCKING	MIN HORIZONTAL DISTANCE	HEIGHT RELATIVE TO COMP	PREFERRED SPECIES (minimum height)	ACCEPTABLE SPECIES (minimum height)	REGEN DELAY OFFSET YRS	FG LATE OFFSET YRS	Comments
1051897	CWH	vm	1	5,6	deciduous mgmt	I	1200	700	500	2	150	DR(4.0)	ACT(4.0) MB(4.0)	3	11	Elevation <450m; <30% on N, NE, NW aspect, <20% on E or W aspect; on sites protected from winds; Plant 1400-1600 sph; with large stock types 512's or larger; avoid cold air drainages, avoid hot dry exposures (ridges and bluffs), avoid sandy, rocky, gravelly shallow soils
1051899	CWH	vm	1	6		I	900	500	400	2	150	CW(1.5) HW(3.0) BA(1.8)	SS(3.0)DR(4.0)	6	20	BA: suitable minor species on salal-dominated sites; SS: acceptable only in SW portion of district
1051900	CWH	vm	1	7		I	900	500	400	2	150	CW(2.0)HW(4.0) BA(2.3)	SS(4.0) FDC(4.0) DR(4.0)	3	20	FDC: on southerly aspect, restricted to trial use; HW: suitable on thick forest floors, elevated microsites are preferred; SS: acceptable only in SW portion of district
1051901	CWH	vm	1	8		I	900	500	400	2	150	BA(2.3) CW(2.0) HW(4.0)	SS(4.0) DR(4.0)	3	20	SS: acceptable only in SW portion of district; HW: suitable on thick forest floors
1051902	CWH	vm	1	9		I	900	500	400	1.5	150	BA(2.3) CW(2.0) HW(4.0)	DR(4.0)SS(4.0)	3	20	SS: acceptable only in SW portion of district
1051903	CWH	vm	1	10		I	900	500	400	1.5	150	CW(2.0)	BA(2.3) SS(4.0) Dr(4.0)	3	20	All species: elevated microsites are preferred; SS: acceptable only in SW portion of district
1051904	CWH	vm	1	13		I	400	200	200	1.5	150	PLC(1.3)	CW(1.0)	3	20	All species: elevated microsites preferred
1051905	CWH	vm	1	14		I	800	400	400	1.5	150	CW(1.5)	HW(3.0) SS(3.0)	3	20	All species: elevated microsites preferred
1051906	CWH	vm	2	1		I	900	500	400	2	150	HW(2.5) CW(1.5) BA(1.8)	HM(1.5) FDC(2.3) YC(1.5)	6	20	YC: restricted to upper elevation in southern portion of the BEC unit; FDC: can be acceptable species on lower elevation, elevated microsites on Southerly aspects within the variant; BA: Limit use in interior transition areas; HM: restricted to the upper elevations
1051907	CWH	vm	2	3		I	800	400	400	2	150	CW(1.0) HW(1.8) FDC(1.5) YC(1.0)	PW(2.5)	6	20	FDC: restricted to southerly aspects; PW: restricted to southern portion of BEC unit in region; YC: restricted to upper elevation sites
1051908	CWH	vm	2	4		I	900	500	400	2	150	CW(1.0) HW(1.8) FDC(1.5) YC(1.0)	PW(2.5) BA(1.5) HM(1.0)	6	20	YC: restricted to upper elevation in southern portion of the BEC unit; FDC: on southerly aspects; PW: restricted to southern portion of biogeoclimatic unit in region
1051909	CWH	vm	2	5		I	900	500	400	2	150	CW(1.5) HW(2.5) YC(1.5) BA(1.8)	FDC(2.3) SS(3.0)	3	20	YC: restricted to upper elevation in southern portion of the BEC unit; FDC: restricted to trial use on steep slope and on southerly aspects
1051910	CWH	vm	2	6		I	900	500	400	2	150	CW(1.5) HW(2.5) YC(1.5) BA(1.8)	HM(1.0)	6	20	Yc: restricted to upper elevation in southern portion of the BEC unit; Hm: on upper elevation sites

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1051911	CWH	vm	2	7		I	900	500	400	2	150	CW(2.0) HW(3.5) YC(2.0) BA(2.3)	HM(1.0) SS(4.0)	3	20	YC: restricted to upper elevation in southern portion of the BEC unit; HM: on upper elevation sites; HM: suitable on thick forest floors
1051912	CWH	vm	2	8		I	900	500	400	2	150	CW(2.0) HW(3.5) YC(2.0) BA(2.3)	HM(1.5)	3	20	CW: restricted to lower elevations of biogeoclimatic unit; SS: acceptable only in SW portion of the district; HM: on upper elevation sites
1051913	CWH	vm	2	9		I	800	400	400	1.5	150	CW(1.0) HW(1.8) YC(1.0)	BA(1.5) HM(1.8)	3	20	All species: on elevated microsites; HM: on upper elevation sites
1051914	CWH	vm	2	10		I	400	200	200	1.5	150	PLC(1.3) YC(1.0)	HM(1.8)	3	20	All species: on elevated microsites; YC: restricted to upper elevation in southern portion of the BEC unit; HM: on upper elevation sites
1051915	CWH	vm	2	11		I	800	400	400	1.5	150	CW(1.0) YC(1.0)	HW(1.8) HM(1.8)	3	20	All species: on elevated microsites; YC: restricted to upper elevation in southern portion of the BEC unit; HM: on upper elevation sites
1051916	ESSF	mw		1		I	1200	700	600	2	125	SX(1.0) BA(.6) BL(.8)	PLC(2.0)	4	20	
1051917	ESSF	mw		2		I	1000	500	400	2	125	PLC(1.3) FDC(1.0)	SX(.8)	7	20	FDC: restricted to southerly aspects and to lower elevations of biogeoclimatic unit
1051918	ESSF	mw		3		I	1000	500	400	2	125	PLC(1.3) FDC(1.0) SX(.8)	BL(.6)	7	20	FDC: restricted to southerly aspects and to lower elevations of biogeoclimatic unit
1051919	ESSF	mw		4		I	1200	700	600	2	125	PLC(1.3) SX(.8) FDC(1.0)	BL(.6) BA(.6)	7	20	FDC: restricted to southerly aspects and to lower elevations of biogeoclimatic unit
1051920	ESSF	mw		5		I	1200	700	600	2	125	SX(1.0) BL(.8)	BA(.6)	4	20	
1051921	ESSF	mw		6		I	1200	700	600	2	125	BL(.8) SX(1.0)	BA(.6)	4	20	
1051922	ESSF	mw		7		I	1000	500	400	2	125	BL(.6) SX(.8)	BA(.6) CW(.8)	4	20	CW: restricted to lower elevations and fresh soil moisture regimes
1051923	ESSF	mw		8		I	1000	500	400	2	125	BL(.6) SX(.8)	CW(.8)	4	20	All species: on elevated microsites. CW: restricted to lower elevations and fresh soil moisture regimes.
1051924	IDF	ww		1		I	600	400	400	2	150	FDC(1.5)	CW(1.5) PLC(2.0) PY(1.5) Lw(1.5) EP (3.0)	4	20	LW: on trial basis except in the NE portion of the Sea To Sky Natural Resource District Seed Planning Zone Lw1 where it can be planted operationally at a maximum of 200 stems/ha; PY: restricted to nutrient-medium sites, acceptable only in NE portion of district
1051925	IDF	ww		2		I	400	200	200	2	150	PLC(1.3)	FDC(1.0)	3	20	
1051926	IDF	ww		3		I	600	400	400	2	150	FDC(1.5)	PLC(2.0) PY(1.5)	3	20	PY: restricted to nutrient medium sites, only in NE portion of district
1051927	IDF	ww		4		I	600	400	400	2	150	FDC(1.5) PY(1.5)	CW(1.5) MB(3.0) EP(3.0)	4	20	Consider using deciduous in root rot management areas; PY: acceptable only in NE portion of district

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1051928	IDF	ww		5		I	1000	500	400	2	150	CW(2.0) FDC(2.0)	HW(1.5) MB(3.0) EP(3.0)	4	20	Consider using deciduous in root rot management areas
1051929	IDF	ww		6		I	1000	500	400	2	150	FDC(2.0) CW(2.0)	HW(1.5) MB(3.0) EP(3.0)	4	20	Consider using deciduous in root rot management areas
1051930	IDF	ww		7		I	1000	500	400	2	150	CW(1.5)	PLC(2.0) SX(1.0) SS(1.0)	4	20	CW: elevated microsites are preferred, PLC: restricted to nutrient-medium sites
1051931	MH	mm	1	1		I	900	500	400	2	125	BA(.6)	SX(1.0) HW(1.0) CW(1.0) FDC (1.0) HM(1.0) YC(1.0)	7	20	SX: restricted to trial use; CW: Promote use in lower elevations of the variant; FDC: restricted to trial use only on south facing dry sites at lower elevations of the variant; HM: only in the upper portions of the variant. HW, YC: are restricted to lower elevations of the variant
1051932	MH	mm	1	2		I	800	400	400	2	125	HM(.8) YC(.8)	BA(.6) SX(.8) HW (.8)	4	20	SX: minor component due to weevil risk, w/ climate change in mind restricted to lower elevation bands
1051933	MH	mm	1	3, 4		I	900	500	400	2	125	BA(.6) HM(1.0) YC(1.0)	HW(1.0)	4	20	HW: restricted to lower elevations of biogeoclimatic unit,
1051934	MH	mm	1	5		I	900	500	400	2	125	BA(.6) YC(1.0)	HM(1.0) HW (1.0) SX (.8)	4	20	SX: w/ climate change in mind restricted to lower elevation bands
1051935	MH	mm	1	6		I	800	400	400	1.5	125	HM(.8) YC(.8)	BA(.6) HW (1.0) SX (.8)	7	20	SX: w/ climate change in mind restricted to lower elevation bands
1051936	MH	mm	1	7		I	900	500	400	1.5	125	BA(.6) YC(.8)	HM(.8) HW (1.0) SX (.8)	4	20	SX: w/ climate change in mind restricted to lower elevation bands
1051937	MH	mm	1	8		I	400	200	200	1.5	125	HM(.8) YC(.8)	HW (1.0) SX (.8)	4	20	SX: w/ climate change in mind restricted to lower elevation bands
1051938	MH	mm	1	9		I	800	400	400	1.5	125	YC(.8)	HM(.8) HW(.8) SX(0.8)	4	20	SX: w/ climate change in mind restricted to lower elevation bands
1051939	MH	mm	2	1		I	900	500	400	2	125	BA(.6) HM(1.0) SX(1.0) YC(1.0)	HW(1.0) BL(1.0) FDC(1.0) CW(1.0)	4	20	SX, YC: restricted to upper elevations of variant; FDC: can be used on a trial basis on lower elevations of the variant. HW, Cw: restricted to lower elevations of variant
1051940	MH	mm	2	2		I	400	400	400	2	125	HM(.8) SX(.8) YC(.8)	BA(.6) BL(.8)	4	20	BL: minor component
1051941	MH	mm	2	3		I	900	500	400	2	125	BA(.6) HM(1.0) SX(1.0) YC(1.0)		4	20	BL: minor component
1051942	MH	mm	2	4		I	900	500	400	2	125	BA(.6) HM(1.0) YC(1.0)	HW(1.0) BL(1.0)	7	20	

Figure 2 – Stocking Standards

STANDARDS REGIME ID	BGC ZONE	BGC SUB ZONE	BGC VARIANT	SITE SERIES	STANDARDS OBJECTIVE	STOCKING LAYER	TARGET STOCKING	MIN STOCKING	MIN PREFERRED STOCKING	MIN HORIZONTAL DISTANCE	HEIGHT RELATIVE TO COMP	PREFERRED SPECIES (minimum height)	ACCEPTABLE SPECIES (minimum height)	REGEN DELAY OFFSET YRS	FG LATE OFFSET YRS	Comments
1051943	MH	mm	2	5		I	900	500	400	2	125	BA(.6) SX(1.0) YC(1.0)	HM(1.0)	4	20	
1051944	MH	mm	2	6		I	800	400	400	1.5	125	HM(.8) YC(.8) Ba(0.6)		7	20	HM, BA: elevated microsites are preferred
1051945	MH	mm	2	7		I	900	500	400	1.5	125	BA(.6) YC(.8) SX(.8)	HM(.8)	4	20	BA, SX, HM: elevated microsites are preferred
1051946	MH	mm	2	8		I	400	200	200	1.5	125	HM(.8) YC(.8)		4	20	HM,YC: elevated microsites are preferred
1051947	MH	mm	2	9		I	800	400	400	1.5	125	HM(.8) YC(.8)	SX(.8)	4	20	HM, YC, SX: elevated microsites are preferred

Table 4 - Abbreviations

Abbreviations	
Conifer tree spp.	Broadleaf tree spp.
Ba = amabilis fir	Acb = balsam poplar
Bg = grand fir	Act = black cottonwood
Bl = subalpine fir	At = trembling aspen
Bp = noble fir	Dr = red alder
Cw = western red cedar	Ep = common paper birch
Fd = Douglas-fir	Mb = bigleaf maple
Hm = mountain hemlock	Og = Garry oak
Hw = western hemlock	Ra = arbutus
Lt = tamarack	
Lw = western larch	
Pa = whitebark pine	
Pl = lodgepole pine	
Pw = white pine	
Py = ponderosa pine	
Sb = black spruce	
Se = Engelmann spruce	
Ss = Sitka spruce	
Sw = white spruce	
Sx = hybrid or interior spruce	
Sxs = hybrid Sitka spruce	
Sxw = hybrid white spruce	
Yc = yellow cedar	
“Biogeoclimatic unit” or “BCG classification” =	The zone, subzone, variant and site series described in the most recent field guide published by FLNRO for the identification and interpretation of ecosystems.

Table 5 - Multi-Layer Conifer Stocking Standards

Target standards	Layer	Target preferred	Minimum preferred and acceptable	Minimum preferred
Stems/ha		Well-Spaced/ha		
1200	1	600	300	250
	2	800	400	300
	3	1000	500	400
	4	1200	700	600
1000	1	400	200	200
	2	600	300	250
	3	800	400	300
	4	1000	500	400
900	1	400	200	200
	2	500	300	250
	3	700	400	300
	4	900	500	400
800	1	300	150	150
	2	400	200	200
	3	600	300	300
	4	800	400	400
600	1	300	150	150
	2	400	200	200
	3	500	300	300
	4	600	400	400
400	1	200	100	100
	2	300	125	125
	3	300	150	150
	4	400	200	200

Table 6 - Stand Layer Definition

Layer 1	Mature	Trees $\geq$ 12.5 cm dbh
Layer 2	Pole	Trees 7.5 cm to 12.4 cm dbh
Layer 3	Sapling	Trees $\geq$ 1.3m height to 7.4 cm dbh
Layer 4	Regeneration	Trees < 1.3m height

3.1.2 Rules for Modifying Stocking Standards

This list of rules will be used by qualified professionals when prescribing a stocking standard for a block. They indicate the process and criteria for modifications to an approved standard, and also require that these modifications be supported by a rationale, documented and incorporated into a plan.

Rule 1. Site Series Mosaics/Complexes

Where more than one site series is located within a logical standards unit area, the dominant site series standard will apply. Minimum size of 1 hectare.

This standard can be modified to include additional species selected from subdominant site series standard, for those specific areas of the mosaic or complex. These additional components to the standard will be supported by a rationale, documented and incorporated into a plan.

Rule 2. Transitional Sites

On transitional sites occurring between two BEC units, the dominant BEC unit standard will apply. This standard can be modified with the inclusion of components of the standard associated with the sub-dominant BEC unit.

These additional components to the standard will be supported by a rationale, documented and incorporated into a plan.

Rule 3. Minimum Intertree Distance (MITD)

The general MITD of 2.0 metres can be reduced down to 1.5 metres for any given site where productive and plantable sites are limited by pre-harvest site characteristics. These can include, but are not limited to, colluvial, overstory canopy, hygric and subhygric sites.

Justification for a reduced MITD will be supported by a rationale, documented and incorporated into a plan.

Rule 4. The crop tree height to brush ratio in a fireweed complex can be lowered to 100% for Fd and PI and 80% for all other species.

Justification for a reduced ratio will be supported by a rationale, documented and incorporated into a plan.

Rule 5. Leave Trees

The minimum characteristics, in order for leave trees to contribute toward the free growing stand, are they must be of good form, health and vigour and otherwise meet the stocking standards for that site.

In situations where leave trees will not contribute to the free growing stand, the leave trees within the harvest area must have characteristics appropriate to meet forest management objectives developed for the site.

The forest management objectives must be supported by a rationale, documented and incorporated into a plan.

Rule 6. Western Larch Range Expansion LR2

Western Larch can be considered an acceptable species in the D'Arcy area of the Sea to Sky Forest District. Limit densities to 200 stems per hectare or less on the mid to lower South facing slopes away from major waterbodies in the LW1 Seed Planning Zone (See attached map and announcement in Appendix A)

Rule 7. If the strategy is to manage for hardwoods (Dr, Ep, Mb), refer to the Hardwood Management Ecology Guide (Appendix 2) for BEC and site series where hardwood management may be applied.

3.1.3 Root Disease Management Strategies and Stocking Standards.

If the block planning indicates a root rot survey is warranted, BCTS will conduct the survey, and the results will be reviewed by a qualified professional who may apply some or all of the following general management strategies to amend the approved stocking standards:

- 1) Indicate moderately susceptible or tolerant coniferous species as acceptable and/ or:
- 2) Reduce minimum inter-tree spacing to allow for inoculums avoidance planting and/or:
- 3) Reduce stocking levels of preferred and acceptable species below minimum stocking standard, provided all prescribed operations intended to abate the risk of root disease have been fully implemented.

3.1.4 Amendments

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

4. Appendices

Table A1. Forest Development Units

Forest Development Unit's (FDU)	Covers the:	
	TSA	TFL 38
East Howe	Y	
Indian	Y	
Mamquam	Y	
Lower Squamish	Y	
Upper Squamish		Y
Elaho		Y
Whistler	Y	
Soo	Y	
Ryan	Y	
Meager	Y	
Upper Lillooet	Y	
Railroad	Y	
Birkenhead	Y	
Gates	Y	
Billygoat	Y	
Lizzie	Y	
Rogers	Y	
Tuwasus	Y	
Sloquet North	Y	
Sloquet High	Y	
Sloquet South	Y	

Table A2. Declared Areas

At time of advertisement there are no declared areas to report.

i. Table 7 Cutblocks:

FDU	Declaration Date	Cut Block # or TSL #	Area (ha)	Volume (m ³)	Silv System Harv Method	Map #	Comments

ii. Table 8 Roads:

FDU	Declaration Date	Road Identifier	Length (km)	Status	Map #	Comments

Table A3. Road permits in effect

Road permits in effect at time of submission

Road Permit #	TSL #	Mapsheet #	Comments
R18862	A87095	92G.079	
R19972	A92572	92G.075	
R20193	A91145	92J.037	
R20558	A92988	92G.089/099	Tsetspa7
R20691	A93336	92G.085	
R20799	A93442	92J.014	RP is a draft in TSL folder
R21000	A93819	92J037	
R21093	A93817	92J.037	
R21238	A93966	92J.014	TFL38
R21239	A93818	92J.009	Tsetspa7
R21242	A93301	92G.085	
R21400	A94395	92J.036	
R21413	A94035	92J.028	Lilwat

Table A4. FSP Amendment Log

Amendment Number	Amendment Date	Date approved by the DDM (if req'd)	FDU (if applicable)	Amendment Details

Appendix A

Amendments to the spatial data for western larch seed planning zones Lw1, Lw2 and Lw3 – May 2014

Assisted Range and Population Expansion of Western Larch for Use as a Climate Change Adaptation Strategy in British Columbia

On May 26, 2014, Tree Improvement Branch amended the spatial dataset for western larch (*Larix occidentalis*) areas of use for seed planning zones Lw1, Lw2 and Lw3. The changes reflect "best available scientific information" and can be implemented immediately since the spatial data (geometry and map products) of tested parent tree areas of use do not require a formal amendment to the *Chief Forester's Standards for Seed Use*. Notification under the Forest Planning and Practices Regulation, and Woodlot Planning and Practices Regulation of the Forest and Range Practices Act is also not required in this instance.

This amendment follows a review of the June 2010 interim measures that established western larch (climate change) seed planning zones, Lw1, Lw2 and Lw3. The purpose of the review was to evaluate the effectiveness of the interim measures and to investigate options for improvement.

This amendment continues to align with the original goal of the interim measures: the BC Climate Action Secretariat's vision to "make adaptation apart of the BC Government's business, ensuring that climate change impacts are considered in planning and decision-making across government". The scientific information contributing to these changes is based upon the research and analysis conducted by Dr. Gerald E. Rehfeldt (USDA Forest Service, retired) and Dr. Barry Jaquish (MFLNRO, Tree Improvement Branch), as reported in their publication, "Ecological impacts and management strategies for western larch in the face of climate change" (March, 2010, Mitigation and Adaptation Strategies for Global Change; ISSN 1381-2386, Volume 15, Number 3). For the review, Tree Improvement Branch staff solicited operational feedback through client and stakeholder consultation.

The amendment includes the following changes:

- Combining seed planning zones Lw1 and Lw3 as they are represented by one seed orchard population,
- Expanding the seed planning zone boundaries of Lw1 and Lw2, and
- Smoothing the raster data of seed planning zone boundaries of Lw 1 and Lw2 (to remove the 'blocky' pixel-based shapes).

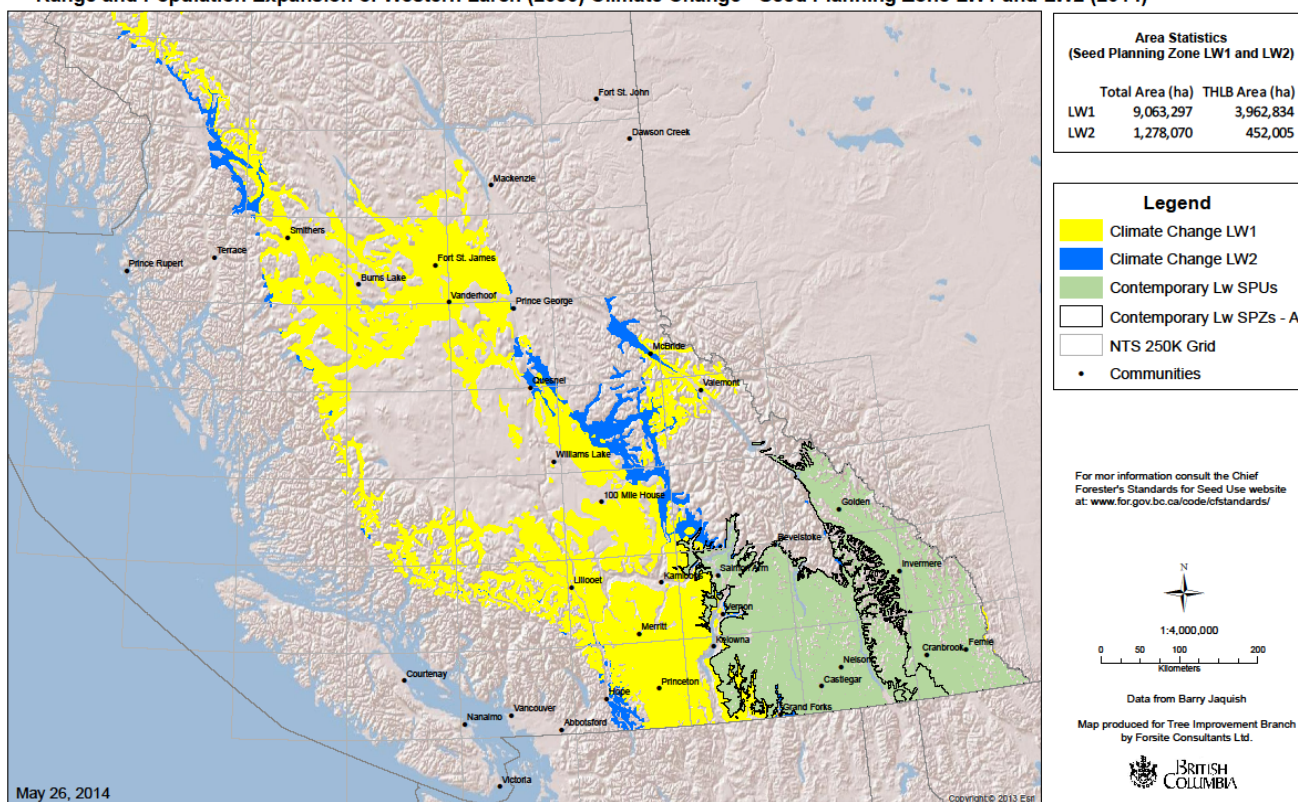
This amendment will continue to serve as "interim measures" for western larch until replacement with the new Climate-Based Seed Transfer system. Spatial data (i.e. shape files and geodatabase) and a provincial scale PDF map are available on Tree Improvement Branch's FTP site at http://www.for.gov.bc.ca/ftp/HTI/external/!publish/Western_Larch_Interim_Measures/.

Questions regarding this amendment can be directed to staff in Tree Improvement Branch, Ministry of Forests, Lands and Natural Resource Operations:

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Range and Population Expansion of Western Larch (2030) Climate Change - Seed Planning Zone LW1 and LW2 (2014)



Appendix B

Legal Objectives - Birkenhead FDU Birkenhead LU – Legal Order and Objectives (April 13, 2005)

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Birkenhead Landscape Unit map dated March 21, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction (unrelated to ecosystem restoration activities) may be undertaken in OGMA's that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 15 ha in variant CWHds1,
 - ii) 30 ha in variant CWHms1,
 - iii) 5 ha in variant IDFww,
 - iv) 40 ha in subzone ESSFmw, and
 - v) 5 ha in variant MHmm2

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

(2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:

- i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
- ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
- iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
- iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.

(3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.

(4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #8, 14, 24, 52, 70, 74, 95, 101.

3. Permissible Activities:

(1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

(2) Timber harvesting for ecosystem restoration purposes within fire dominated areas in up to 25% of OGMAs in the IDFW subzone and 25% of OGMAs in the CWHds1 variant. Proposed treatments must adhere to the Strategies and Table B below, and must be incorporated into an approved operational plan (FDP or equivalent) that specifically addresses ecosystem restoration goals. Ecosystem restoration activities must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

(3) 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, that affect an OGMA by less than 0.5 hectare in total.

(5) Where OGMA replacement forest is required as a result of activities under 3 (1) or (3), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

4. Permissible Activities for Safety Purposes:

(1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.

(2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

Results or strategies for Objective 2

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

- (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the ESSFmw subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	% Wildlife Tree Retention
CWH ds (Coastal Western Hemlock, dry subarctic)	4
CWH ms (Coastal Western Hemlock, moist subarctic)	3
ESSF mw (Engelmann Spruce Subalpine Fir moist warm)	0
IDF ww (Interior Douglas Fir, wet warm)	5
MH mm (Mountain Hemlock, moist maritime)	2

Ecosystem Restoration Strategies:

The purpose of restoration activities in OGMA, within the limits provided, is to improve or maximize biodiversity values and/or ecosystem health values in areas where there is a high to extreme risk of natural disturbance. Where ecosystem restoration is proposed and carried out, it must address the following strategies:

1. Where ecosystem restoration provisions within OGMA are proposed in an FSP, the FSP must outline the highest risk/highest priority transition forests requiring treatment. Ecosystem restoration treatment will be permitted in up to 25% of the OGMA target area, within specified site series in the IDFww and CWHds1 variants (see Table B).
2. Restoration activities within OGMA must address how old growth structure will be developed and/or maintained through management intervention over time. Accepted treatments include: partial cut timber harvesting, spacing, thinning and prescribed burning. Note: Open forest (<76 stems/ha in IDF, and <170 stems/ha in CWH) or grassland communities will not meet OGMA suitability criteria. Treatments to below these thresholds can occur outside OGMA; they can and do contribute to natural ecosystem diversity but aren't considered a forested ecosystem for OGMA purposes.
3. Where other resource objectives have been set (e.g. Ungulate Winter Range, Spotted Owl SRMZ, Identified Wildlife – Wildlife Habitat Areas), ecosystem restoration will only be permitted where compatible with those objectives. In addition, restoration plans and treatments must be compatible with and incorporate the habitat requirements of other red and blue-listed species or regionally important species.
4. Restoration prescriptions will vary from site to site, but will maintain the oldest and/or largest trees for the site and high value wildlife trees (any high value wildlife trees that are determined to be danger trees should be left in no work zone areas). Partial harvest will be limited to removal of excess immature and understory trees or any larger trees in excess of the target stocking standard specified in Table B.
5. Partial-cut harvesting will be subject to current timber harvesting and silviculture practices, except normal stocking standards and green-up height obligations will not apply (see Table B for modified stocking standards).
6. BEC subzones, variants and site series for purposes of Table B will be confirmed by site plan or on the ground information.
7. Achieving restoration targets will be a direct function of budget and staffing resources available to undertake treatment activities.
8. Once forest stands within OGMA have received initial restoration treatment, they should become components of a long term cycle of spacing and/or prescribed burning and future partial-cut harvesting that will maximize biodiversity value and ecosystem health. All treatments subsequent to meeting modified stocking standards would be considered incremental, and would not be considered a licensee responsibility unless by mutual agreement. Special and non-governmental funds can potentially be accessed to finance these incremental treatments.

9. All roads and trails required for restoration treatment must be temporary, and rehabilitated promptly (i.e. made non-drivable) after completion of harvest operations (except roads required for permanent access beyond the OGMA).
10. In most cases a partial-cut harvest can meet target stocking initially, but unless further treatments are undertaken, stocking targets will be exceeded again after a short time. Subsequent (incremental) prescribed burns will normally be required to reduce numbers of new tree seedlings or rejuvenate the understory and recycle nutrients. If burning is prescribed it should normally follow a partial-cut treatment so that initial fuel loading is reduced. Partial-cut harvest slash volumes and distribution should be managed to facilitate subsequent low soil temperature, surface burns. Measures must be taken to ensure post burn survival of appropriate numbers of tree recruits.
11. Restoration targets set in Table B may be modified over time based on experience, long term monitoring and better scientific knowledge (Adaptive Management).

Table B. Ecosystem Restoration Targets for the Birkenhead Landscape Unit

BEC Unit	Site series Still need To confirm site series	Target Stocking Standard (stems/ha)	Minimum/ Maximum Stocking Standard (stems/ha)	Desired Structures Post Treatment*	Primary Leave Spp. (Secondary/Minor Leave Species)**	General Mgmt System Proposed
IDF ww	02, 03	- 200 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	76 – 250	WT, LT, CL, UV	02-Pl (/Fd) 03-Fd (Pl Py/)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain open forest
IDFww	01, 04, 05	- 250 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	170 – 400	WT, LT, CL, UV	01-Fd (Pl Py / Cw) 04-Fd (Py / Cw) 05-CwFd (/Ss)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain forest condition
CWHds1	01, 02, 03, 04	- 250 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	170 – 400	WT, LT, CL, UV	01-Fd (/Cw Lw Pw) 02-Pl (Fd/) 03-Fd (Pl Py / Cw) 04-Fd (/Cw Lw Pw) 05-Fd (Se/Cw Pw)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain forest condition

* WT = where present and safe, retain a minimum of 5 moderate or high value wildlife trees per hectare; and 5 dying trees >50 cm dbh per hectare (e.g. by no work zone).

LT = large trees for the site, including veteran trees.

CL = approximately 1/3 of leave trees should be in clusters, not just uniform spacing.

UV = the diversity of natural understory vegetation (e.g. shrubs) should be retained, herbicide treatment should not occur.

** leave tree species are taken from the Ministry of Forests Land Management Handbook Number 28.

Legal Objectives - East Howe FDU

East Howe LU: Legal Order and Objectives (Aug. 1, 2003)

Results or strategies for 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) OGMAAs 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) OGMAAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
 - ii) OGMAAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
 - iii) OGMAAs ≥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 OGMAAs: #6, 7, and 35.

Results or strategies for Objective 2

Maintain stand level structural diversity by retaining wildlife tree retention area (WTR).
Cutblocks for which harvesting has been completed by each licensee by tenure will maintain adequate amounts of wildlife tree retention area 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) WTR 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 WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR 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 (%)	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

Gates LU - Legal Order and Objectives (April 13, 2005)

Legal Objectives - Gates FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Gates Landscape Unit map dated March 21, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.

2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction (unrelated to ecosystem restoration activities) may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:

- i) 15 ha in variant CWHds1,
- ii) 15 ha in variant CWHms1,
- iii) 15 ha in subzone ESSFmw, and
- iv) 30 ha in variant MHmm2

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

(2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:

- i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
- ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
- iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
- iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.

(3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.

(4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #9, 33, 35, 45, 57, 61.

3. Permissible Activities:

(1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.

(2) Timber harvesting for ecosystem restoration purposes within fire dominated areas in up to 25% of OGMAs in the IDFww subzone and 25% of OGMAs in the CWHds1. Proposed treatments must adhere to the Strategies and Table B below, and must be incorporated into an approved operational plan (FDP or equivalent) that specifically addresses ecosystem restoration goals. Ecosystem restoration activities must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

(3) 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, that affect an OGMA by less than 0.5 hectare in total.

(5) Where OGMA replacement forest is required as a result of activities under 3 (1) or (3), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

4. Permissible Activities for Safety Purposes:

(1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.

(2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

Results or strategies for Objective 2

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

(1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.

(2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the ESSFmw and MHmm subzone.

(3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.

(5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).

(6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).

(7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	% Wildlife Tree Retention
CWH ds (Coastal Western Hemlock, dry subarctic)	6
CWH ms (Coastal Western Hemlock, moist subarctic)	6
ESSF mw (Engelmann Spruce Subalpine Fir moist warm)	1
IDF ww (Interior Douglas Fir, wet warm)	8
MH mm (mountain Hemlock, moist maritime)	0

Ecosystem Restoration Strategies:

The purpose of restoration activities in OGMA's, within the limits provided, is to improve or maximize biodiversity values and/or ecosystem health values in areas where there is a high to extreme risk of frequent natural disturbance. Where ecosystem restoration is proposed and carried out, it must address the following strategies:

1. Where ecosystem restoration provisions within OGMA's are proposed in an FSP, the FSP must outline the highest risk/highest priority transition forests requiring treatment. Ecosystem restoration treatment will be permitted in up to 25% of the OGMA target area, within specified site series in the IDFww and CWHds1 variants (see Table B).
2. Restoration activities within OGMA's must address how old growth structure will be developed and/or maintained through management intervention over time. Accepted treatments include: partial cut timber harvesting, spacing, thinning and prescribed burning. Note: Open forest (<76 stems/ha in IDF, and <170 stems/ha in CWH) or grassland communities will not meet OGMA suitability criteria. Treatments to below these thresholds can occur outside OGMA's; they can and do contribute to natural ecosystem diversity but aren't considered a forested ecosystem for OGMA purposes.
3. Where other resource objectives have been set (e.g. Ungulate Winter Range, Spotted Owl SRMZ, Identified Wildlife – Wildlife Habitat Areas), ecosystem restoration will only be permitted where compatible with those objectives. In addition, restoration plans and treatments must be compatible with and incorporate the habitat requirements of other red and blue-listed species or regionally important species.
4. Restoration prescriptions will vary from site to site, but will maintain the oldest and/or largest trees for the site and high value wildlife trees (any high value wildlife trees that are determined to be danger trees should be left in no work zone areas). Partial harvest will be limited to removal of excess immature and understory trees or any larger trees in excess of the target stocking standard specified in Table B.
5. Partial-cut harvesting will be subject to current timber harvesting and Silviculture practices, except normal stocking standards and green-up height obligations will not apply (see Table B for modified stocking standards).
6. BEC subzones, variants and site series for purposes of Table B will be confirmed by site plan or on the ground information.
7. Achieving restoration targets will be a direct function of budget and staffing resources available to undertake treatment activities.
8. Once forest stands within OGMA's have received initial restoration treatment, they should become components of a long term cycle of spacing and/or prescribed burning and future partial-cut harvesting that will maximize biodiversity value and ecosystem health. All treatments subsequent to meeting modified stocking standards would be considered incremental, and would not be considered a licensee responsibility unless by mutual agreement. Special and non-governmental funds can potentially be accessed to finance these incremental treatments.
9. All roads and trails required for restoration treatment must be temporary, and rehabilitated promptly (i.e. made non-drivable) after completion of harvest operations (except roads required for permanent access beyond the OGMA).
10. In most cases a partial-cut harvest can meet target stocking initially, but unless further treatments are undertaken, stocking targets will be exceeded again after a short time. Subsequent (incremental) prescribed burns will normally be required to reduce numbers of new tree seedlings or rejuvenate the understory and recycle nutrients. If burning is prescribed it should normally follow a partial-cut treatment so that initial fuel loading is reduced. Partial-cut harvest slash volumes and distribution should be managed to facilitate subsequent low soil temperature, surface burns. Measures must be taken to ensure post burn survival of appropriate numbers of tree recruits.
11. Restoration targets set in Table B may be modified over time based on experience, long term monitoring and better scientific knowledge (Adaptive Management).

Table B. Ecosystem Restoration Targets for the Gates Landscape Unit

BEC Unit	Site Series	Target Stocking Standard (stems/ha)	Minimum – Maximum Stocking Standard (stems/ha)	Desired Structures Post Treatment*	Primary Leave Spp. (Secondary/Minor Leave Species)**	General Mgmt System Proposed

BEC Unit	Site Series	Target Stocking Standard (stems/ha)	Minimum – Maximum Stocking Standard (stems/ha)	Desired Structures Post Treatment*	Primary Leave Spp. (Secondary/Minor Leave Species)**	General Mgmt System Proposed
IDF ww	02, 03	- 200 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	76 – 250	WT, LT, CL, UV	02-Pl (/Fd) 03-Fd (Pl Py/)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain open forest
IDFww	01, 04, 05	- 250 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	170 – 400	WT, LT, CL, UV	01-Fd (Pl Py / Cw) 04-Fd (Py / Cw) 05-CwFd (/Ss)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain forest condition
CWHds1	01, 02, 03, 04, 05	- 250 of the oldest and largest stems. - up to 1/3 clustered - 2/3 well spaced.	170 – 400	WT, LT, CL, UV	01-Fd (/Cw Lw Pw) 02-Pl (Fd/) 03-Fd (Pl Py / Cw) 04-Fd (/Cw Lw Pw) 05-Fd (Se/Cw Pw)	Periodic partial-harvesting, prescribed burning, spacing and/or thinning to maintain forest condition

* WT = where present and safe, retain a minimum of 5 moderate or high value wildlife trees per hectare; and 5 dying trees >50 cm dbh per hectare (e.g. by no work zone).

LT = large trees for the site, including veteran trees.

CL = approximately 1/3 of leave trees should be in clusters, not just uniform spacing.

UV = the diversity of natural understory vegetation (e.g. shrubs) should be retained, herbicide treatment should not occur.

** leave tree species are taken from the Ministry of Forests Land Management Handbook Number 28.

Indian LU: Legal Order and Objectives (Aug. 1, 2003)

Legal Objectives - Indian FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forest attributes in designated old growth management areas (OGMAs), as shown on the attached Indian Landscape Unit map dated August 6, 2002. Timber harvesting, including salvage, single tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMA's 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 OGMA's. 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) OGMA's that are >10 ha in size may be modified for operational reasons up to a cumulative maximum of :
 - a) 15 ha in variant CWHvm1,
 - b) 45 ha in variant CWHvm2, and
 - c) 30 ha in 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) OGMA's >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
 - ii) OGMA's ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
 - iii) OGMA's ≥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's: #34, 49

Results or strategies for Objective 2

Maintain stand level structural diversity by retaining wildlife tree retention area (WTR). Cutblocks for which harvesting has been completed by each licensee by tenure will maintain adequate amounts of wildlife tree retention area 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) WTR 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 WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR 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 Indian Landscape Unit

BEC Subzone	Wildlife Tree Retention %
CWH vm (Coastal Western Hemlock, very wet maritime)	11
MH mm (Mountain Hemlock, moist maritime)	5

Lower Squamish LU: Legal Order and Objectives (Aug. 1, 2003)

Legal Objectives - Lower Squamish FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forest attributes in designated old growth management areas (OGMAs), as shown on the attached Lower Squamish Landscape Unit map dated August 6, 2002. 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) 5 ha in variant CWHms1,
 - c) 10 ha in variant CWHvm1,
 - d) 20 ha in variant CWHvm2, and
 - e) 15 ha in MHmm1provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved, in one of the following categories:
 - i) OGMAs >10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
 - iii) OGMAs ≥100 ha in size where the proposed development affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate or rehabilitate a temporary road or bridge site within four years after construction.
 - v) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
 - (4) Intrusions, other than those specified in (3) above, that affect an OGMA by less than 0.5 hectare in total.
4. Exemption 3(3) above does not apply to the following OGMAs: #52, 60.

Results or strategies for Objective 2

Maintain stand level structural diversity by retaining wildlife tree retention area (WTR). Cutblocks for which harvesting has been completed by each licensee by tenure will maintain adequate amounts of wildlife tree retention area 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) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR 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 Lower Squamish Landscape Unit

BEC Subzone	Wildlife Tree Retention %
CWH dm (Coastal Western Hemlock, dry maritime)	8
CWH ds (Coastal Western Hemlock, dry submaritime)	6
CWH ms (Coastal Western Hemlock, moist submaritime)	8
CWH vm (Coastal Western Hemlock, very wet maritime)	6
MH mm (Mountain Hemlock, moist maritime)	0

Rogers LU: Legal Order and Objectives (March 1, 2004)

Legal Objectives - Rogers FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Rogers Landscape Unit map dated March 10, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 30 ha in variant CWHds1,
 - ii) 60 ha in variant CWHms1,
 - iii) 10 ha in variant IDFWw, and
 - iv) 60 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,

- iii) OGMA's ≥ 100 ha in size where the proposed activity affects the OGMA by $< 10\%$.
 - iv) Construction of ≤ 500 m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMA's #2, 3, 4, 7, 48, 54, 55, 78, 87, 89, 92, 94, 118, 143, 172, 186, 196.

3. Permissible Activities:

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

4. Permissible Activities for Safety Purposes:

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

Results or strategies for Objective 2

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

- (1) WTR 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 WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry subarctic)	9
CWH ms (Coastal Western Hemlock, moist subarctic)	6
IDF ww (Interior Douglas Fir, wet warm subzone)	5
MH mm (Mountain Hemlock, moist maritime)	2

Billygoat Legal Orders and Objectives (Aug. 1, 2004)

Legal Objectives - Billygoat FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Billygoat Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 10 ha in variant CWHds1,
 - ii) 20 ha in variant CWHms1,
 - iii) 10 ha in variant IDFww, and
 - iv) 15 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #2, 7, 19, 28, 29, 58, 99, 100.
3. Permissible Activities:
 - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.
 - (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
 - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
 - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
4. Permissible Activities for Safety Purposes:

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

Results or strategies for Objective 2

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

- (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry subarctic)	7
CWH ms (Coastal Western Hemlock, moist subarctic)	2
IDF ww (Interior Douglas Fir, wet warm subzone)	12
MH mm (Mountain Hemlock, moist maritime)	0

Meager LU: Legal Orders and Objectives (Aug. 1, 2004)

Legal Objectives - Meager FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Meager Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.

2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:

- i) 5 ha in variant CWHds1,
- ii) 30 ha in variant CWHms1, and
- iii) 40 ha in variant MHmm2, provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.

- (2) The criteria in 2 (1) is to apply to individual OGMA's within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMA's >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5ha,
 - ii) OGMA's ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMA's ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMA's #2, 51, 103,105, 106, 107.

3. Permissible Activities:

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

4. Permissible Activities for Safety Purposes:

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

Results or strategies for Objective 2

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

- (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry subarctic)	9
CWH ms (Coastal Western Hemlock, moist subarctic)	7
MH mm (Mountain Hemlock, moist maritime)	0

Railroad LU: Legal Orders and Objectives (Aug. 1, 2004)

Legal Objectives - Railroad FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Railroad Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
 2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 20 ha in variant CWHds1,
 - ii) 25 ha in variant CWHms1,
 - iii) 15 ha in variant ESSFmw,
 - iv) 15 ha in variant IDFww, and
 - v) 10 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
 - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
 - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
 - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #2, 3, 4, 8, 14, 28, 37, 41, 45, 46, 48, 64, 76.
3. Permissible Activities:
 - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.
 - (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
 - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.

- (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.

4. Permissible Activities for Safety Purposes:

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

Results or strategies for Objective 2

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

- (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the ESSF mw and MH mm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry submarine)	8
CWH ms (Coastal Western Hemlock, moist submarine)	6
ESSF mw (Engelmann Spruce Subalpine Fir moist warm subzone)	0
IDF ww (Interior Douglas Fir, wet warm subzone)	8
MH mm (Mountain Hemlock, moist maritime)	0

Ryan LU: Legal Orders and Objectives (Aug. 1, 2004)

Legal Objectives - Ryan FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Ryan Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.

2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMA's that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 5 ha in variant CWHds1,
 - ii) 25 ha in variant CWHms1, and
 - iii) 40 ha in variant MHmm2,
 provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.

- (2) The criteria in 2 (1) is to apply to individual OGMA's within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMA's >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
 - ii) OGMA's ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMA's ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.

- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.

- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMA's #12, 14, 53, 87,144, 154.

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

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

Results or strategies for Objective 2

Maintain stand level structural diversity by retaining wildlife tree retention area (WTR). Cutblocks for

which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree retention area to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:

- (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
- (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
- (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree retention %
CWH ds (Coastal Western Hemlock dry maritime)	10
CWH ms (Coastal Western Hemlock, moist maritime)	8
MH mm (Mountain Hemlock, moist maritime)	0

Soo LU: Legal Orders and Objectives (Aug. 1, 2004)

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Soo Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 35 ha in variant CWHms1, and
 - ii) 35 ha in variant MHmm2,
 provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
- (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
- (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.

- (4) The provisions in section 2 (1) and (2) do not apply to the following OGMA #1, 7, 8, 11, 16, 18, 46, 104.

3. Permissible Activities:

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

4. Permissible Activities for Safety Purposes:

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

Results or strategies for Objective 2

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

- (1) WTR 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 WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
- (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
- (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

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

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry subarctic)	8
CWH ms (Coastal Western Hemlock, moist subarctic)	7
MH mm (Mountain Hemlock, moist maritime)	3

Amendment: Soo LU (Dec. 16, 2010)

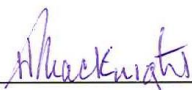
Appendix 1

Ministry of Natural Resource Operations

Ministerial Order

Amendment Order for the Soo Landscape Unit and Objectives

1. Pursuant to section 93.4 of the *Land Act* and by this order, the **Order to Establish the Soo Landscape Unit and Objectives in the Squamish Forest District**, signed August 13th 2004 by the Regional Executive Director Warren Mitchell, is amended as follows.
 - i) The boundary of the Soo Landscape Unit shown on the Soo Landscape Unit Map dated July 30, 2004, is repealed and replaced by the Soo Landscape Unit Map, dated February 5, 2010, attached to this Order.
 - ii) Old Growth Management Area 61 is repealed.
 - iii) Old Growth Management Areas 18 and 24 are repealed and replaced by the amended Old Growth Management Areas 18 and 24 shapes shown on the attached Soo Landscape Unit Map dated February 5, 2010.
 - iv) Objective 1(1) is repealed and replaced by "*Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Soo Landscape Unit map dated February 5, 2010 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.*"
2. This Order takes effect on the day that notice of this Order is published in the Gazette.
3. Pursuant to section 8(2)(b) of the *Forest and Range Practices Act*, an approved forest stewardship plan must be amended to be consistent with this order within 12 months from the effective date of this Order.



Heather MacKnight
Regional Executive Director, Coast Region
Ministry of Natural Resource Operations

Dec. 16, 2010

Date

Confidential

Page 4

Upper Lillooet LU: Legal Orders and Objectives (Aug. 1, 2004)

Legal Objectives - Upper Lillooet FDU

Results or strategies for Objective 1

1. Maintain or recruit old growth forests in established old growth management areas (OGMAs), as shown on the attached Upper Lillooet Landscape Unit map dated July 30, 2004 subject to timber harvesting and road construction in accordance with section 2, 3 and 4 below.
 2. (1) Where sufficient suitable replacement forest is available in the variants listed below, timber harvesting or road construction may be undertaken in OGMAs that are >10 ha in size for operational reasons up to a cumulative maximum of:
 - i) 15 ha in variant CWHms1, and
 - ii) 15 ha in variant MHmm2,provided that replacement OGMA of equivalent or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA.
 - (2) The criteria in 2 (1) is to apply to individual OGMAs within the categories below and must ensure that OGMA ecological attributes and spatial distribution are maintained or improved:
 - i) OGMAs >10 ha to <50 ha in size where the proposed activity affects the OGMA by <5 ha,
 - ii) OGMAs ≥50 ha to <100 ha in size where the proposed activity affects the OGMA by <10ha,
 - iii) OGMAs ≥100 ha in size where the proposed activity affects the OGMA by <10%.
 - iv) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.
 - (3) Where OGMA boundary adjustments and replacement areas are required under section 2 (1) and (2) they must be documented, mapped and submitted to the satisfaction of the Delegated Decision Maker (DDM) at the end of each calendar year for his/her approval.
 - (4) The provisions in section 2 (1) and (2) do not apply to the following OGMAs #13, 28, 63, 65.
3. Permissible Activities:
 - (1) Timber harvest may occur to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.
 - (2) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by <0.5 ha.
 - (3) Intrusions, other than those specified, that affect an OGMA by less than 0.5 hectare in total.
 - (4) Where OGMA replacement forest is required as a result of activities under 3 (1) or (2), it must be of equivalent or better quality and quantity and be identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA; such that OGMA ecological attributes and spatial distribution are maintained or improved. OGMA replacement areas must be documented, mapped and submitted to the satisfaction of the DDM at the end of each calendar year for his/her approval.
 4. Permissible Activities for Safety Purposes:
 - (1) Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.

- (2) Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.

Results or strategies for Objective 2

1. Maintain stand level structural diversity by retaining wildlife tree retention area (WTR). Cutblocks for which harvesting has been completed by each licensee by tenure will retain adequate amounts of wildlife tree retention area to ensure that over each 3 year period, commencing on the date the objectives are established, the target percentage as noted in Table A is achieved. In addition:
 - (1) WTR must be well distributed across the BEC subzone and located within or immediately adjacent to a cutblock.
 - (2) Each cutblock >10 ha in size must have a minimum of 2% wildlife tree retention, except in the MHmm subzone.
 - (3) No timber harvesting, including single tree selection, is to occur within WTR 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 WTR 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 WTR. Where salvage/harvesting is planned and authorized, replacement WTR of equivalent or better quality and quantity must be identified immediately to achieve the retention target.
 - (5) WTR must include, if present, remnant old growth patches and live or dead veteran trees (excluding danger trees).
 - (6) WTR must include representative larger trees for the stand and any moderate to high value wildlife trees (excluding danger trees).
 - (7) Where differences exist between mapped and actual BEC subzones, subzones will be confirmed by site plan information.

Table A. Wildlife Tree Retention by BEC subzone in the Upper Lillooet Landscape Unit

BEC Subzone	Wildlife Tree Retention %
CWH ds (Coastal Western Hemlock, dry maritime)	12
CWH ms (Coastal Western Hemlock, moist maritime)	6
MH mm (Mountain Hemlock, moist maritime)	0

Mamquam Lizzie Tuwasus Sloquets LUs: OGMA Order Revised (October 30, 2014)

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.

Whistler LU: OGMA Order (Sept 10, 2015)

PROVINCE OF BRITISH COLUMBIA

Ministry of Forests, Lands and Natural Resource Operations

Ministerial Order

Land Use Objectives for the Whistler Landscape Unit

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 Whistler Landscape Units (LU), as shown in the map 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 map 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

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

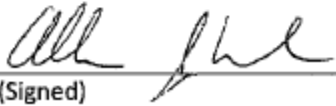
- 1) Retain trees in the OGMAs identified in Schedule A, except to fell trees where necessary for any of the following:
 - (b) To prevent insect infestations or diseases posing a significant threat to forest health;
 - (c) To remove an identified safety hazard within road right-of-ways, recreation sites, 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 Section 4 (2) will not exceed the lesser of:
 - (a) Two hectares, or
 - (b) Five percent of the OGMA area.

Part 3 – Identification of Replacement Area and Communication

5. The trees felled under Section 4(1) are to be left on-site to function as coarse woody debris, except where they pose a significant risk to forest health.
6. The licensee will identify an equivalent area of trees to replace the area of trees felled under Section 4 (2), and ensure each of the following conditions are met:
 - 1) The replacement area of trees is equal or greater to the area of trees felled,
 - 2) 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
 - 3) The replacement area of trees is located according to the following order of priority:
 - (a) Connected to the OGMA subject to activities pursuant to Section 4 (2), in the same Biogeoclimatic Ecosystem Classification (BEC) variant;
 - (b) Connected to a nearby OGMA in the same BEC variant;
 - (c) A new area of trees located as close as is practicable to the OGMA subject to activities pursuant to Section 4 (2), in the same BEC variant.
7. The licensee will provide notice and documentation of the proposed area of trees felled under Section 4 (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:
 - 1) A description of the proposed area and characteristics of trees to be removed from the OGMA;
 - 2) A description of the proposed replacement area and characteristics of trees required in accordance with Section 5; and
 - 3) 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

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


(Signed) _____ Date (MM/DD/YY) 08/20/15
For Heather MacKnight, Regional Executive Director
South Coast Region, Ministry of Forests, Lands and Natural Resource Operations